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FEDERAL CAPITAL ADMINISTRATION.

REPORT

OF THE

ROYAL COMMISSION.

(3.) WASTEFUL EXPENDITURE AT CANBERRA.

Presented by the Commission on 20th June 1917.

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ROYAL COMMISSION ON FEDERAL CAPITAL
ADMINISTRATION.

REPORT.

3. WASTEFUL EXPENDITURE AT CANBERRA.

To His Excellency the Right Honorable Sir RONALD CRAUFURD MUNRO FERGUSON, a Member of His Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor-General and Commander-in-Chief of the Commonwealth of Australia.

MAY IT PLEASE YOUR EXCELLENCY—

1. The subject of this part of the Report covers a great variety of charges, almost wholly in connexion with works and buildings, only a few matters of wasteful expenditure being alleged in respect of services. Some of these charges are based on alleged want of skill in the design and construction of the works for water supply, sewerage, and brick-works. The more important of such charges I purpose dealing with in subsequent parts of the Report relating particularly to those works, inserting here only some matters which are directly relevant to the present subject.

2. Many of the larger items of expenditure making up the gross total of £855,895 to the end of the financial year 1915-16 have not been attacked in evidence, the expenditure extending over such a space of time and so wide a range of details, that any attempt to prove the gross total extravagant would be impossible. The charges, therefore, have usually been confined to specific buildings or particular works.

COST AND VALUE OF BUILDINGS.

3. All buildings mentioned in evidence before the Commission, except the power-house and workshops and buildings near it, are situate at Acton, or are in connexion with the Military College at Duntroon. The Acton buildings were in the main erected only to serve a temporary purpose and intended for subsequent removal. The Administrator's residence and residences for officers were intended to be permanent and this intention also attaches to Canberra hospital, but all the Government offices at Acton were intended for temporary use only. Evidence as to the value of buildings at Acton, the power-house, and Duntroon buildings and works, was given by Mr. Walter George Hiscock, Manager of Companies, Public Accountant, and Sworn Valuator under the *Transfer of Land Act 1890*, a man of very great experience in accountancy, in the erection of buildings, and in their valuation. He did his work with thoroughness, taking the cubic contents and description of every building concerning which he gave evidence, and put before the Commission photographs of nearly all of them. His valuations were in almost every instance based upon the standard of cubing. It is proved that this method of calculating values is very generally used, not only by architects, but also by contractors and valuers. Where buildings are of ordinary kind, comparable with other like buildings in the same locality, of which the exact cost of erection can be ascertained, I have no doubt that this method is satisfactory and accurate, but with regard to the buildings in question, I do not think that values so arrived at can without some qualification be accepted. For instance it is almost impossible to get any criterion as to the

cost of erection of the gymnasium and military buildings at Duntroon, nor the Administrative offices at Acton, and therefore, while attaching very great weight to Mr. Hiscock's estimates which were guided and governed by his long experience in building generally, I was not able to accept his valuations unreservedly. The defect of the cubing method is that after the cubic contents of a building have been ascertained, the value wholly determines upon the judgment of the valuer, and is a matter of estimate. It is not a matter of calculation as it would be if the quantities were taken out and current costs used for calculation of total value. In many instances, however, the difference between the estimated value of a building and its cost as shown in the account books was so great that any nice calculation of reasonable cost was unnecessary. This may be illustrated by the fact that taking the whole of the buildings together exclusive of the power-house, Mr. Hiscock estimates the reasonable cost, taking into consideration the necessarily greater cost of buildings at Canberra as compared with Melbourne or Sydney, at £48,468; while the amount of their cost according to the books is £104,829, to which administrative charges estimated at 11 per cent. have to be added, bringing the total cost to £116,361. It is contended that there has to be added to the cost of buildings now standing the cost of removing some of the buildings from one site to another. The buildings at the power-house for instance, had been removed from Acton, and as one of them the blacksmith's shop—had a cement floor, the cost of removal was substantial. As against this contention there is the fact that £1,130 has been charged to the item of "running and miscellaneous expenses" for 1915-16 for the removal of these buildings, and it is incredible that this cost could have been incurred. Other costs of removal must be taken into consideration, as for instance, the removal of the Nursery buildings from Acton to their present site near Yarralumla, and also possibly the removal of some other structures, but this cost cannot be considerable, and is probably covered by the charge for "alterations and removals of buildings at Canberra" which now stands at a total of £421.

4. In all comparisons of costs and valuation following I state in each instance the book cost for actual construction only, no charges for supervision being included. Mr. Walters, Accountant of the Department of Home Affairs, estimates the over-head charges at 11 per cent., and this rate should in strictness be added to the book cost, for over-head charges are included in Mr. Hiscock's valuations. Some of the buildings on Mr. Hiscock's estimate are not over-loaded as to their cost. The machine-shop at the power-house stated to have cost £3,687 is, Mr. Hiscock says, (3216, 3258) "well worth the money." Bachelor quarters at Acton stand in the books at £1,465, an amount that is obviously erroneous, as their value is, I think, rightly estimated by Mr. Hiscock at £1,000 beyond that figure. The Recreation Hall at Canberra said to have cost £23 is, according to Mr. Hiscock, worth £175, and certain other buildings are as to their book cost fairly near the amount of reasonable total cost of erection.

5. One certainly erroneous item in the list of items of expenditure at Canberra, Exhibit B.60, is "Administrative block and quarters, £15,336", this building is valued by Mr. Hiscock at £3,450 (4742). Mr. Piggitt, Clerk in Charge of Accounts at Canberra, says that this ought to be taken in conjunction with the Bachelors' quarters; assuming that this is so, that would only add another thousand to the figures stated, and would still leave £10,886 of value to be accounted for. Colonel Owen (4736) suggests that this item ought to include alterations at Acton (for which £421 has been separately debited) extra rooms to married officers' quarters, and three cottages for married officers; but these latter items have been charged to another account to be noticed presently. Colonel Owen also suggests that the item includes water supply and fire service, earth works and excavations, and other small items, but even so these items cannot bridge any considerable part of the immense difference between book cost and reasonable cost of the Administrative office building. As stated in Part 2 of this Report certain inexplicable debits to the extent of £8,945 have been made in this account, and it is more than probable that these debits were improperly made and the amount ought to be reduced by their sum. If that is so, that sum of £8,945 ought to have been debited of some other building or work. If there has been an over-debit in this case, there must have been a corresponding error in some other account.

6. "Buildings for work-shops," &c., is another inexplicable item. Its total is £14,463, and the only buildings that can be included under it are the machine-shop, worth £3,687, and other buildings at the power-house worth £2,435, leaving a deficiency of £8,341. Mr. Hiscock, before he made his valuation, obtained from the officers at

Canberra a certified plan (B 182) specifying all the buildings to be included in the item, so there can be no mistake on that point. It is quite impossible that the amount stated, or even 50 per cent of it, could ever have been spent upon or in respect of these buildings. Whether the item is an evidence of negligent bookkeeping, or of waste, it is impossible to determine.

7. Another remarkable item is the Administrator's residence at Acton. The original estimate for this building was £3,000, and Colonel Miller demurred to this as being excessive. However, the building was proceeded with and its debit of cost is £9,356. Mr. Hiscock's estimate of its value is £2,800. Here again, it may be that part of the difference is to be accounted for by bad bookkeeping, for £2,310 of the amount debited against this item is in respect of an allocation of a sum of £23,317, and of a further sum of £4,926 standing to the debit of Acton Buildings as stated in paragraphs 14 and 18 of the second part of this Report, £2,310 being the amount of those total sums of expenditure assumed to have been expended on the Administrator's residence. The Commonwealth Bank Manager's quarters at Acton show a debit of £1,647; Mr. Hiscock's estimate is £1,195. The Commonwealth Bank stands at £2,310, and its valuation by Mr. Hiscock is £1,970. Fire Brigade buildings at Acton carry a debit of £495, and the valuation is £395. The married officers' quarters stand at £7,118 11s., and stables £711 6s. 9d. in addition, but their cost according to Mr. Rolland, the architect under whose supervision they were built, was £9,502, or £1,188 each. They are valued by Mr. Hiscock at £5,600, £3,992 below their cost. I shall have to deal more particularly with these later.

8. The Nursery buildings now at Yarralumla stand at a debit of £1,843 4s. 9d., and are valued by Mr. Hiscock at £1,040. As there is a separate account for afforestation, which now stands at a total of £12,324, and also the debit of £421 for alterations and removal of buildings, it may be assumed that this amount for the nursery buildings is the bare cost of the buildings only, without charge for the removal of some of them from their former site at Acton. The power-house building cost £39,596. Mr. Hiscock values it at £20,125. This is a case where he had a close guide as to value, for he had recently as a member of a Tramway Trust had knowledge of the cost of a similar building. He cubes at 5d., the cost is 9d. per cubic foot. I shall have to analyze this cost when dealing with the power-house, and shall then show it to be excessive. The post-office at Acton was estimated to cost £640. It cost £784, and its value is said to be £510. The hospital at Canberra cost £7,915, and is valued at £2,750, but in this account certain items, which ought to have been charged to equipment have been debited to the building and deduction of this amount would reduce the debit proper to the building to £7,810. From this total also must be deducted £400 for subscription to Queanbeyan hospital. Until the completion of the Canberra hospital a subsidy of £200 a year was paid to Queanbeyan hospital and debited under that heading but after the completion of Canberra hospital, this amount of £200 a year was still paid and debited to "Hospital, Canberra, erection." The Authority books, 1914 15, page 412; and 1915 16, page 328, each shows the Minister's authority for payment of £100 a year to Queanbeyan hospital, "payable quarterly," and lower down in each page is a further authority for the payment of £100 a year to the same hospital, "payable monthly." I did not ascertain the reason for this very remarkable arrangement. Deducting the sums of £105 and £400 from the cost of the hospital, there is still a difference of £4,660 between the value and cost. If Mr. Hiscock's estimate is correct the building has cost 170 per cent. more than its value.

9. The total debit in connexion with the proposed arsenal amounts to £11,533 19s. 3d. The site had at first been selected east of the city, some work had been done there and then the site was changed to another more distant from the city, in a northerly direction, and after some work had been done there the site was again changed to Tuggeranong. The total includes railway formation work, £812; plate-laying work, £412; camp, £1,425; water supply, £2,704; plant, £2,164; excavation at factory site, £452; three workshop buildings, £495; and stock, £700. Other items are freight, handling, and advertisements, £241; road to the site, £1,365; freight on rails for the arsenal, £716; and other smaller items. The buildings are valued by Mr. Hiscock at £700. If Mr. Hiscock is right these buildings are worth more than they cost to erect, because the only amount stated for buildings is £495. But the figures making up the total of £11,533 are not taken from records, but are "an allocation"—a phrase that frequently occurs in relation to Canberra accounts. Railway

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formation work was on account of No. 1 site and the work done and now visible may possibly be adequate values: as to plate-laying, £412, nothing of that can be now seen; and camp, £1,425, is an item that requires much explanation and none has been given. No stock to represent the £700 was seen by Mr. Hiscock, but Mr. Dunn, store-keeper at Canberra, when asked if there were any rails to represent the item said that there were some rails there, but as far as he knew they had not been paid for, and yet freight, £716, had been allocated to these rails, and that freight is alleged to have been paid between 15th September and 30th November, 1915. The road to the site £1,365 0s. 1d., includes the making of a short cut road to lead from the railway towards No. 2 site, and no particular evidence is given to indicate whether the amount represents the work done. Acton workmen's buildings, £865, is represented now only by a few tents. Whether there ever were any buildings to justify this cost, no evidence has been given to show.

10. It will be seen that there is the utmost difficulty in ascertaining whether the cost of works and buildings have or have not been excessive, for it is impossible to rely upon the figures or matters stated in the books. The Cotter River Road may serve as an instance in point. That road, nine miles long, was stated in B.60 to have cost £9,733, equal to £1,081 per mile. This, upon view of the road and consideration of the work involved, was obviously excessive. Strenuous efforts were made by and on behalf of the officers to prove that the nature of the country, and of the work, was such that this cost instead of being excessive was very moderate, and the matter was contested on that basis upon voluminous evidence, until it was found just at the conclusion of the inquiry that the length of the road represented by this expenditure was not nine miles, but twelve miles. Now it further appears that £750 of the total was not for road formation at all but for the purchase of a traction engine, and £750 for a deviation that has never been completed: and so with these qualifications of the original figures, reducing the totals to £8,233 and increasing the distance by 33 per cent., the cost of the road comes down to £686 per mile, a sum which fairly represents the work at Canberra standards of cost.

BUILDINGS AT DUNTRON.

11. Difficult as the task of ascertaining the cost of items is in the case of Canberra, it is still more difficult with regard to Duntronn. There the expenditure on works and buildings amounts to £202,590. Every effort to obtain particulars as to the cost of any one work or building included in that total has failed hopelessly (18596). The work was begun in 1910 and up to July, when £153,000 had been expended and debited to Duntronn, every amount had been, in Mr. Piggitt's phrase, "paid out in a lump," and this in spite of Colonel Miller's protest of 8th February, 1913. He then wrote, "I am absolutely in the dark and cannot obtain any information respecting the financial position of works at the Military College" (B.221). Colonel Owen also asserts that information as to the particulars of this expenditure "do not exist," and Mr. Hiscock (18596) after the utmost inquiry failed to get a statement of the cost of any one building. He visited Duntronn in November 1916, for the purpose of making a valuation of the buildings, but was quite unable to get any particulars of their actual cost. Mr. Murdoch, architect, was, Mr. Hiscock says, "goodness itself" (19023) in supplying him with particulars of the cubic contents of buildings, and this was the only information that Mr. Hiscock was able to obtain to assist him in his work. According to his estimate the main buildings are worth £97,245, and the amount of other works as shown on a schedule to his report comes to £42,889. From the amount of these other works he deducts such part of their cost as has already been allowed for in main buildings, and the two items stated then show a total of £137,098, being £65,492 short of the total expenditure. Admittedly there are certain items of expenditure difficult of estimation that must be allowed for, and which would go to some extent to reduce this deficiency; but the total of these being deducted would still leave a very great deficiency between the money expended and the value now to be seen for such expenditure. Certain invisible items must also be allowed for; for instance, the laundry first established had to be removed to make room for a larger establishment, and there also have been changes in respect of other services in the substitution of better and completer systems. What these amount to it is impossible to state with any degree of accuracy. All that one can say is that everything being allowed for a very large proportion of the £65,000 is still unexplained. Mr. Hiscock cannot make a complete list of items that should be allowed in reduction, and Mr. Rolland, Supervising Architect at Canberra

during the time that these buildings were erected, has not attempted to do so, but on behalf of the officers, valuations of various buildings and works always considerably in excess of Mr. Hiscock's estimates, have been put forward. With regard to Mr. Hiscock's values, his methods of arriving at value on the cubing standard is open to the objection already stated, inasmuch as the factor of personal judgment leaves probability of error in respect of buildings of unfamiliar type. But the Works officers have also adopted cubing as their basis of valuations at Duntronn, so that whatever may be said against its use by Mr. Hiscock applies with equal force to the estimates of value put forward by the officers. Mr. Hiscock in his valuation has added nothing for overhead charges, as salaries of officers were not debited to Duntronn. He states (18640) that the buildings are "all well built of their class and made of the best of everything," and he has estimated their proper cost on that basis. In the matter of cubic contents there is comparatively little between his total for all buildings and that of the Departmental officers. His estimate is 3,843,042 cubic feet, the Departmental total being 3,888,184 cubic feet. But his estimates vary very greatly from the Departmental valuations. In paragraph 18631 certain buildings are mentioned, for these the Departmental estimate is £22,189; Mr. Hiscock's valuation being £17,770. In round numbers the Departmental estimate being 25 per cent. greater than his. In paragraph 18639 other main buildings are stated, and these are valued in the Departmental list at £26,978, while Mr. Hiscock's value is £19,745, the difference of £7,233 being roughly 36 per cent. above Mr. Hiscock's estimate. The difference between these valuations closely accords with the difference between Mr. Hiscock's estimated total of £137,098 and the actual expenditure of £202,000, and I think that the whole difference in estimates will be found in this, that Mr. Rolland has calculated on the basis of his experience of the actual cost of buildings at Canberra, while Mr. Hiscock, although making what he thought liberal allowances upon Melbourne costs, has estimated according to his views of proper cost. It is urged on behalf of the Department that Mr. Hiscock was not in a position to know what expenditure was necessarily incurred in the matter of foundations, and other incidental work. But he had prepared himself thoroughly for his work by getting plans and specifications of buildings, and also by obtaining Mr. Murdoch's estimate of the cubing.

COST OF WORK AT CANBERRA.

12. I think that the whole question as to Duntronn and a very great part of the question as to Canberra, is to be determined, not by the account books statement of cost compared with the evidence of valuation, but rather by consideration of the way in which works were carried on in the period between 1910 and 1916.

13. From the first there appears to have been considerable difficulty in obtaining labour necessary from time to time. There were not many local applicants for employment and men when required were engaged at Melbourne or Sydney, and sent up to Canberra. Then on 1st May 1915, under a minute by the Right Hon. Andrew Fisher, P.C., Prime Minister, it was ordered that:—

"Whenever the Department requires casual labour the Secretaries of the Unions interested shall be notified by the officers of the Department of the intention of the Department to put on men in such a date and place and requesting them to notify their members of these facts. This notification must be given at the earliest moment practicable in order that the unionists notified by the Secretary may have an opportunity to present themselves at the place and on the day and hour fixed. In addition to this notification to the Secretary, the requirements of the Department shall be notified to the Secretaries of the general public. This shall be done in any way best calculated to ensure publicity in the circumstances."

and thereafter the greater number of men required were obtained in this way. Obviously the labour obtained in this way did not include many men who could readily obtain work in Sydney, and as the men so engaged were paid their railway fares for going to Canberra and their return fares if they were discharged, as well as payment for the time occupied on the journey, it is clear that these charges constituted a substantial addition to the cost of the labour employed. What amount of money was paid in travelling expenses and time allowance it is impossible to discover, for no account was kept, but Exhibit B.244 shows that this must have been a considerable item of cost, for of the total of 167 men engaged in Melbourne and sent to Canberra since May 1914, 117 proved to be "unsatisfactory." It is certain that there must have been considerable extra loss by reason of the fact that if a man engaged in Melbourne turned out not to be a good workman, the alternative was between dismissing him at once and paying his fare and allowance back to Melbourne, or else in spite of his incapacity, keeping him on the job;

and a further reason for putting up with an inferior man was that if he were dismissed and expenses paid back, there would be no assurance that the man who was sent in his place would prove any more satisfactory. Then too full wages were paid for all gazetted holidays to all workmen in all trades; and this concession alone, according to Mr. Rolland (Exhibit C.58) added 2½ per cent. to the cost of labour—a percentage that is obviously underestimated. There was also a special allowance to all hands in case of wet days, a full day being paid for if work was "interrupted by rain after 2 o'clock, and half a day being paid for if rain came on during the morning." Another cause that militated against economy in construction is indicated in Mr. Rolland's evidence. He says (26996) that the men would get to know what moneys were available for buildings, and towards the completion of a work they would "probably slow off" if no other job was in sight. The supervisors in such case "would do their best to keep the men up to the collar, and would circulate information among the men that probably additional work would come on." There is no evidence to indicate that officers connived at this slowing down, but it is possible that they may have been aware of it without exerting very great effort to improve the pace, because if one job was finished before another could be started a considerable number of the best workmen, who were not willing to remain unemployed, would seek work elsewhere, and if a fresh job was afterwards started there might be extreme difficulty in getting a sufficient number of men as efficient as those who had gone.

14. A very substantial addition to the cost of all work was caused by the payment to all workmen, except those who applied for work and were engaged at Canberra, of the "country allowance," ranging from 1s. 3d. to 2s. extra pay per day, and this rate was continued although the workmen made their homes at Canberra, and lived there for years. Others engaged at Canberra received only the award rate, although doing exactly the same work as the men engaged in Sydney or Melbourne. It is at least a question whether the country allowance was payable at all. The Bricklayers Award of the 3rd June 1914, provides a minimum rate for bricklayers throughout the State of New South Wales with a country allowance of 1s. 6d. per day "when the employee has been sent from Sydney or any local centre to the job." This clause enacts an exception to the general rate of wages, and I think it provides for cases where workmen employed, say at Sydney, are "sent" by their employer to work for him on a country job, but does not cover the case where the whole employment is in the country and the employment does not begin till the workman arrives at the job. A later sub-clause provides that the employer is liable to pay the workman's fares as often "as he recalls him from the job" and "sends him back again," and this provision seems to support the view I have suggested. Under the Builders' Labourers Award made by His Honour Mr. Justice Higgins on the 16th December 1913, for "country work" 2½d. per hour extra is allowed, and "fares necessarily incurred in travelling from and to his centre, and to have his time of travelling to and from his centre not exceeding 8 hours per day treated as time on duty." His Honour's judgment (pp. 15 and 16) bases the extra wage allowance on the fact that a workman on "country work usually has to maintain two homes," and later (p. 16) His Honour says, "This extra payment is based on the assumption that the man must live away from his home. All seem to agree that this is the best rough test of what is country work." I can find no decision on the point, but it appears to me that workmen engaged in Sydney or Melbourne to work at Canberra and living with their families there are not within the exception of either award as to country work, but this extra wage has always been paid, and has probably added from 7½ to 10 per cent. to the cost of every work.

WORKMEN'S HUTS.

15. There is one other very strong reason for the want of full efficiency, and for the high cost of labour at Canberra, and that is in the fact that the married workmen at Canberra have to live under conditions almost intolerable to themselves and their families. No cottages have ever been erected by the Commonwealth for workmen at Canberra. Colonel Owen said it would "have been difficult to get married officers to go to Canberra" unless suitable residences were provided, but no consideration of this kind has ever been extended to workmen—married or single. The plan adopted was to set apart areas for workmen's cottages near to the work upon which they were employed, one such area being near the power-house and another near the brick-works, and then married men, and single men also, were allowed to occupy allotments of this land, 40 feet by 100 feet, for which privilege they paid 1s. a week and were allowed to

erect such dwellings as they chose. No workman could make a "home" or even a comfortable dwelling under these circumstances. His employment might cease on any day, and then he would have to leave Canberra to seek employment elsewhere. It would have been folly for these men to spend more than a very few pounds upon habitations which might become worthless to them on any day. It is true that they were allowed to sell their huts if they could find a buyer, but the price realized would not represent any substantial fraction of the original cost. So to-day near the power-house and the brick-works, within the area of the Federal City, there are at each place two rows of unsightly, inconvenient huts constructed of galvanized iron, hessian, box boards, canvas, and any other material that can be obtained cheaply. These places afford no protection from the heat of summer nor from the cold, sometimes intense cold, of winter, and can hardly be dignified with the name of dwellings. They have no privacy, for there are no dividing fences or walls between them. Six water-closets, properly labelled and distinguished, for each twenty huts, are situate on the open ground 100 yards behind each row. I am assured that these settlements are regularly inspected, and that every precaution is taken against infectious diseases, but the conditions are prohibitive of comfort and destructive to modesty, and the huts are not fit for residence for workmen and their families. The conditions under which these workmen and their families live, are discreditably to the officers who permitted and induced such conditions. Some of the workmen rather than live at Canberra, live at Queanbeyan, eight miles away, and obtain an extra allowance in wages for so doing, because their postal address is then more than six miles from where they work. They go backwards and forwards on their bicycles daily, and I assume that sixteen to twenty miles a day or a bicycle would somewhat detract from the efficiency of a labourer, although this exertion entitles him to an increased wage.

16. All the officers who gave evidence as to work at Canberra agreed that the cost was greater than in Melbourne or Sydney—the usual estimate was 40 per cent. more. Before the Administrator's residence was begun, Mr. Oakeshott, Works Director for New South Wales, estimated its cost at 12,85½ per cubic foot—£3,900. Colonel Miller (B.167) protested against this estimate as being 40 per cent. above Sydney cost. Mr. Oakeshott replied that the estimate was not excessive, as Sydney cost would be 9d. to 10d. per cubic foot, and that freight and cartage of materials and damage in transit, and "extra wages due to the subsistence allowance to each workman as well as payment of fares from Sydney" accounted for the difference. On the estimate of 9d. per cube in Sydney, the cost would be £2,742 3s. 9d. Mr. Hiscock's estimate of value of the building complete was £2,800: Mr. Oakeshott's estimate of cost was £3,900: the building according to the Works Branch books cost £5,180, that is 18½d. per cube, or according to Mr. Piggin's books £6,356, equal to 20½d. per cubic foot. Mr. H. M. Rolland, Assistant Architect, who supervised the erection of buildings at Canberra from November 1912, to July 1916, calculated on a basis of 40 per cent. above Sydney cost, and bases this estimate upon the extra pay and allowances to workmen, and the fact that inefficient men had to be kept on the works, and the further fact that close supervision was difficult because the works were scattered. He also presses the fact that bricks cost from 52s. 6d. to 55s. at the Queanbeyan kilns. Comparatively few bricks were used, and concrete which was largely used was much less expensive than in the State Capitals.

SPECIFIC CHARGES OF WASTE.

17. The officers in charge of works at Canberra assert that the inefficiency of labour has added to costs. The question remains whether inefficient administration is not also responsible for excessive cost. In support of the affirmative of this question there are some remarkable instances of wasteful expenditure in administration which may be exceptional, but on the other hand may be illustrative of Canberra methods, and explanatory of the excessive expenditure that on the whole appears in the accounts. The first matter is with regard to the construction of an aerial rope-way to take supplies up to the top of Red Hill. The total cost of this work appears to have been something like £1,000. As usual with Canberra affairs, the cost can only be guessed, but the amount involved from first to last is probably near the total stated. This rope-way was erected just before the construction of the service reservoir at Red Hill was begun. There is no doubt that the task of getting goods to the reservoir site was a matter of some difficulty, and it seems at first to have been thought that the engineers would not be able to make a conveniently graded road to the summit; but a road was made of a grade

such as to permit of its use by traction engines with full loads, and one circumstance that utterly condemns the construction of the aerial rope-way was that the rope itself, which probably represented the heaviest load that traction engines would ever be required to carry, was taken up that road in order that it might be let down on the eastern side of the hill for the purposes of the rope-way. The rope-way was only used on some occasions for sending up water, and on one occasion the Minister then in office was by its means conveyed to the reservoir. Later the rope-way was taken down and the materials, or most of them, have been stored away ever since. I have to regard the whole of the amount expended on this rope-way as being wasted, except for any use that may be made of the materials used. If it was at first thought necessary to adopt such an expedient, it is astonishing that the expense of erecting the rope-way should have been incurred after it was seen that a traction engine could take up all necessary loads.

18. Another matter that indicates an astonishing want of thought is stated as to its main facts in Exhibit B.223. Mr. H. M. Rolland, Assistant Architect, had to visit from time to time various buildings. There was a Commonwealth buggy available and also a man—George Wilson—who acted as groom and driver, but no horse. Mr. Rolland therefore recommended on 29th May 1913, that a buggy-horse should be hired from George Wilson at the rate of 25s. per week, and intimated that the hiring was expected to continue for twenty weeks. Funds being available, the Administrator approved of this arrangement. The horse was said to be worth £25, and the only consideration for the 25s. per week was the mere hire of the horse itself, stabling, fodder, and grooming being provided by the Commonwealth. This arrangement continued from 1st May, 1913 (the hiring antedating the recommendation by four weeks), up to end of June 1914, a period of fourteen months, an amount of £75 having thus been paid during that hiring. Then the horse was declared to have contracted glanders and was destroyed and the Administrator recommended that Mr. George Wilson, who had already received three times the animal's value in hire, should be paid £20 for its loss, and stated that the horse was worth £25. Why the Commonwealth should have paid compensation at all I cannot see, for there was no contractual obligation to do so, nor is any negligence alleged conducing to the disease. If there was any such negligence, it was on the part of the horse's owner, George Wilson, the groom and driver. However the Honorable W. H. Kelly intimated that as the horse was worth £25, that sum should be paid, and Mr. Wilson therefore received £100 altogether for this horse. Another horse was then required, and this was hired from Mr. Wilson on the same terms of 25s. per week: that hiring continued during another 54 weeks, involving a further expenditure of £67 10s. Then on 23rd July 1915, Colonel Owen addressed a memorandum to the Administrator stating "that at the present time a horse is hired for the use of the assistant architect and it is thought advisable that to avoid recurring expenses on this item, the horse should be purchased. A very suitable horse for the work is offered for the sum of £22." That was the horse that the Commonwealth had been paying 25s. a week for during 64 weeks. This recommendation was approved and the horse was purchased, and so on account of this second horse, worth £22, Mr. Wilson received £89 10s. It is remarkable that it should not have occurred either to Mr. Rolland or to the Administrator during the whole period from May 1913 to July 1915, that it would be cheaper to buy the horse right out than to pay its value in the amount of hire every twenty weeks.

19 and 20. Another striking instance of thoughtless and wasteful expenditure, is what is described as the "deviation" on the Cotter River Road. Mr. Scrivenor has been engaged upon the work of easing the grades of the Urriarra Road leading to the Cotter River Road, and in pursuance of that work had surveyed a deviation to avoid the hill leading eastwards from the Western Creek crossing. There was another hill nearer Canberra of steeper grade than this, 1 in 10 as against 1 in 12, so that this deviation would not reduce the ruling grade of the road. This deviation was in the form of the letter "S" leaving the Urriarra Road on the north side, then curving through a rocky hill, crossing the road again at a right angle, and forming another loop on the south side, to rejoin the road about half a mile from the starting place. The road in use at this place was nearly straight, and this deviation would double the length to be traversed. There is a level crossing over the Western Creek on the original road, but this is stated always to have been safe, and only at times of phenomenal rain to be any obstruction to traffic, and then only for a short time. A similar level crossing over a creek occurs a little further on towards Yarralumla, so that cutting out this crossing would still leave another of like nature to be encountered later. Mr. Scrivenor having completed his survey

and furnished sections, Mr. Brilliant, with the men under his charge, entered upon construction by starting to make a box cutting on the northern loop. He had not proceeded far before he suggested to Mr. Connell that alteration of the road as planned was necessary. Thereupon, Mr. Richmond, surveyor, made a fresh survey of this part of the deviation, and the work proceeded. But when the cutting was completed, it was found that it would be unsafe for traffic because the curve through the cutting was of such radius that approaching vehicles could not be sufficiently seen. The banks at the side of the cutting had already been trimmed, but in order to remedy the defect, another two feet of rock were taken from one side of the cutting, and the slope again trimmed. Then the road was formed and metalled. But it was still too dangerous to be used for traffic because of its curve, and also because the entrance from the Urriarra Road was at so sharp an angle that further excavation was required. The entrance was improved in this way; but still more widening and cutting at this point would be necessary before the road could be opened. The work described, according to Mr. Connell, has cost about £750, and when it was so far completed, not only was it seen that the road was not available for traffic by reason of the matters already mentioned, but also because a bridge would be required on the south side of the Urriarra road, and as the creek channel at this point was wide and very rocky, the bridge could not be built for less than £1,000 or £1,200, and only at that cost by using, without charge, some girders that had been swept away from a bridge in course of construction at the Murrumbidgee. It is stated in evidence that the work on this deviation was stopped because funds were not available for this bridge. I hope that funds never will be available for the building of that bridge, or for the completion of this deviation. It is certainly better to write off the £750 as dead loss than to expend another £1,500 to £2,000 in forming the Southern loop of the deviation, building the bridge, and making the Northern loop safe and convenient for traffic. If a deviation was necessary, I am still unable to see why it was not made wholly to the south of the road, or if it were desired to do away with the level crossing and to reduce the grade a very cheap bridge could have been put across the Western Creek above the present level crossing, the height of the bridge reducing by so much the altitude from the creek level to the crest of the hill, and a cutting at the top of the hill still further easing the grade. Certainly this method would have afforded greater improvement than the deviation on which so much money had been already spent, and there would not have been the increased length of road intended as a result of Mr. Scrivenor's design. This work exhibits a strange series of errors throughout—errors discreditable to the officers responsible, and costly to the Commonwealth.

21. One somewhat curious item of waste is in respect of the pump-house at the Murrumbidgee. A very large reflux valve was to be placed in the pump-house, and it was delivered on the ground before the pump-house was far advanced in construction, but it was never brought into the pump-house, and the building has been completed without any opening left for getting the reflux valve into it, and so in order to put this valve into its proper position a portion of the concrete wall must be broken down, and then re-erected.

22. Another similar oversight leading to extra cost is in respect of the shaft leading to a tunnel under the Murrumbidgee, which carries the pipe from the Cotter River dam to the pump-house. The shaft was sunk, lined with concrete, and completed before it was found that it was necessary to have a "monkey-shaft" in close proximity to it for purposes in connexion with the use of the shaft. The cheapest way of doing this combined work of shaft and monkey-shaft would have been to do it in one job, making the monkey-shaft a compartment of the main shaft, but when, after the completion of the shaft, it was discovered that a monkey-shaft was necessary (a fact that ought to have been patent from the first), it was impossible to cut down the main shaft so as to make an additional compartment, because it was concrete lined, and so the monkey-shaft had to be put down within a very few feet of the main shaft, and this not only entailed much more expense, but also, as the sinking was through hard rock where powder had to be used, involved danger of serious fracture of the wall dividing the main shaft from the monkey-shaft, and damage to the concrete lining. This is a clear instance of waste by reason of faulty planning of the work, and the "waste" is not only the extra amount involved in more costly methods of sinking, but there is also the risk of damage occurring in the future by reason of the dividing wall of rock becoming unsafe or even collapsing.

23. Another charge of waste was in respect of a bridge across the Murrumbidgee River. This bridge originally was intended as a temporary bridge, and the first expenditure was charged to Cotter River waterworks, as the bridge was upon the new road made for the purpose of getting material up to the dam. A low level bridge was intended and concrete piers for its support were built up in the river and steel girders 70 feet and 40 feet respectively had just been placed on these piers but not fastened, when a flood came and the girders were washed down the river. Some have since been recovered, and laid on the bank: others are still in the river. Then the design for the concrete piers was extended, and new and higher piers incorporating those already built were erected and fresh girders put upon these and the bridge completed. The total cost of the work in Exhibit B.60 is £6,935, and even allowing for the cost of the lost girders and for the extra cost involved in alteration of the design, this amount certainly appears to be to a very considerable degree excessive, although no definite evidence has been given to indicate the amount of such excess. The original estimate was £1,500, and apparently the removal of the bridge, and erection of another bridge was intended as soon as the Cotter Dam was completed; and Mr. Hill (B.81) reported that the materials of the temporary bridge could be removed, and that those materials would then be worth £500, and estimated the total cost for the temporary bridge, "to be used for many years," at £1,000. He also thought that this temporary bridge would be uninjured by "even an exceptional flood except for some slight damage to the decking." His estimate of total cost of the high level bridge was £5,500. The flood that carried away the girders is said to have equalled the highest flood since 1891. If this statement is correct, Mr. Hill cannot well be blamed for the disaster, for if the temporary bridge had been completed it is more than probable that it would have suffered little damage. But there is one charge of faulty design in connexion with this bridge that seems to me to be fully established: that is in respect of the approach at the Cotter River side, for the embankment there is so low that even a moderate flood would overflow it and make an extensive breach.

24. Another bridge which was charged as an evidence of waste was that over the Molonglo at Acton. Formerly there had been a level crossing, and this was safe and available except during occasional and brief periods. A wooden bridge was designed and constructed in lieu. This bridge (5047) is stated to have had so narrow a space for the flow of water that timber coming down the river was backed up by the bridge, and labour and traction engines had to be constantly employed to clear the timber, especially when there was a flood in the river. The bridge, not strong enough to stand the strain imposed, gradually tilted over down-stream, and finally collapsed altogether. No effort has been made to replace it, and the crossing seems to provide sufficiently for all requirements. The cost of the bridge was £720. The cost of the labour employed from time to time to clear it of timber and *débris* cannot well be estimated, but must have been considerable, and so constantly incurred as to afford ground for belief that the destruction of the bridge was an advantage and an economy to the Commonwealth. This work seems to have been designed without sufficient allowance for the amount of *débris* brought down by the Molonglo in flood time, and to have been constructed of insufficient strength to provide for the strain that should have been anticipated.

25. Another charge of extravagance was in respect of the employment of gatekeepers at certain gates within the Territory, and also in respect of certain works officers. The reason for the employment of gatekeepers was that rabbits had been exterminated on certain lands in the Territory, and those lands fenced with rabbit-proof netting, while other adjoining lands were still rabbit infested. The gates in question were portion of the rabbit-proof fences, and had been from time to time left open, and therefore to secure the clean country against the entry of rabbits four gatekeepers at 9s. a day were employed. It is said that some of them had other duties in repairing rabbit-proof fences, but I think that it must be taken that their sole duty was to open and shut these gates. The cost of rabbit extermination had amounted to £3,451, and the danger to be guarded against was therefore apparent, but for all that I do not think that the expenditure was justified. The Public Gates Act, New South Wales, is in force within the Territory, and could have been enforced by prosecution of one or two of the offenders. The offenders were known, in fact, three of the four persons who were reported to have left gates open were employees, and one case was particularly flagrant because the employee had gone

through gates leaving them open, and had refused to shut any gates that he passed through. Upon the completion of work in progress in clearing other rabbit-infested lands it would have been possible to do away with three of these gates during the year 1916, and this was intended, so that in regard to these gatekeepers their employment was merely temporary. Recently, efforts have been made to install self-closing gates where gates are still required, but up to the time of my inspection at the end of January, success in respect of these gates had not been achieved.

26. Upon Mr. Griffin's appointment to take control of the works within the Territory, certain officers were removed from Canberra. It is charged that their employment was an unnecessary expense, and that £1,983 was saved by their removal, but the evidence is not sufficient to enable me to come to the conclusion that this charge is made out in any particular. Some of the officers were removed to Melbourne and are there doing just the same work that they did at Canberra. As to other officers, such as Clerks of Works, the evidence has not sufficed to make comparison between the amount of work requiring performance by such officers before their removal and after, and although I have no doubt that it was proper economy to dispense with their services, I am unable upon the evidence to say that waste was involved in their employment up to that time.

27. A charge was brought forward at a very late stage in the inquiry regarding an alleged loss to the Commonwealth through faulty design for the arsenal to be constructed at Tuggeranong. It was said that Colonel Owen's design (35375) did not provide for sufficient strength. The first floor support was alleged to be inadequate for the weights required to be borne. The girders had been ordered upon the basis of Colonel Owen's calculations, but Mr. Griffin cancelled this order before any liability had been incurred. The matter is now of interest only in so far as it contains a charge of error in Colonel Owen's design. Originally an arsenal of three floors was intended, then a building of two floors was determined upon, and afterwards a building of one floor only. The matter resolves itself into a contest between Mr. Griffin and Colonel Owen as to the support that should have been provided. Colonel Owen's position is that he had calculated the stress of the machinery that would be imposed upon this floor, and that his design gave a margin of safety of one to four. Mr. Griffin, on the other hand, seems not to have calculated closely the weight that would actually be borne by the machines placed as Colonel Owen intended to place them, but upon information furnished him that 250 lbs. would be required as the strength of the first floor of an arsenal, to have determined that Colonel Owen's design was defective. Evidence of a highly scientific nature was tendered on both sides, and the conclusion reached that the margin of safety upon Colonel Owen's design with the load assumed on Mr. Griffin's requirement was reduced from one to four to one to two and a half. It was strongly urged on Mr. Griffin's behalf that a higher margin was necessary to provide for abnormal weights and also to provide against expansion of steel and sagging of girders involved by the imposition of weight approaching the absolute strength of the structure. He supports this contention by evidence as to the amount of dead weight carried by certain factories at Lithgow, but this seems to me to be not sufficient in view of the fact that Colonel Owen's calculation was upon the limited weight that he had designed as the maximum, which could, with his arrangement of the machinery, be imposed. Upon the whole, I think that Colonel Owen's defence on this behalf prevents me from finding that the charge has been made out.

28. One clearly proved charge of waste is in respect of what are called "married officers' quarters." These are eight cottages built at Acton for the residence of officers and their families. Their average cost according to the Works Branch Cost book was £1,188: their value, according to Mr. Hiscock, £700 each. Under the Public Service Act the amount that may be deducted for rent from officers is one-tenth of their salary only, and therefore the maximum rent for any of these cottages is that paid by Mr. Rolland, namely £30 a year. Colonel Owen stated that it would have been hard to get married men to go to the Territory if comfortable dwellings had not been provided for them. This was not considered a necessity in the case of the married workmen who were left to erect such huts as they could at their own expense. But assuming its necessity in the case of officers, it was not necessary to provide them with expensive residences upon which the rents chargeable would only give a return to the Commonwealth of 1½ to 2½ per cent. Messrs. G. Hudson and Son in March

1912, offered to erect four-roomed cottages at the Territory for £245, with one verandah, or for £275 with two verandahs. These cottages included two rooms, 13 feet 6 inches x 10 feet, and two 10 feet 6 inches x 12 feet, with 6-ft. verandahs; and Mr. Anderson, who was then Clerk of Works, reported that they could be erected by the Department at Canberra for £230 and £260 respectively. Colonel Owen says that they were of insufficient material and inadequate for the requirements of officers, and that therefore it was necessary that these more expensive cottages should be erected. Assuming that the cottages were worth the £1,188 each spent upon them, there is obvious evidence of waste in that they were far in excess of what was reasonably required. If on the other hand, they were worth only the £700 estimated by Mr. Hiscock, they have cost £488 more than they should. In any case it would seem that an officer paying £25 or £30 a year rent could not expect to be provided with a £700 house. I cannot think that it was intended by the Public Service Act that officers should be provided in this way with residences worth 40 per cent. more than they would be able to obtain for the same rent from an owner other than their employer, the Commonwealth. Where the residence is in a building occupied in part by the Commonwealth for business purposes, the case is very different.

29. A service in respect of which there has been considerable expenditure with insignificant result is the hospital maintained at Canberra. For the three complete years during which this hospital has been open it has cost £6,875, an average rate, in round numbers, of about £2,300 per year. The number of patients treated for the year 1914 averaged 1,784 per diem, and for the following year 1,998. These figures reveal certainly a most extravagant rate of cost for treatment, and it may have to be considered whether as a matter of policy the hospital should be maintained at all. There is a fully equipped hospital at Duntroon, but that had been erected for, and is kept in connexion with, the Royal Military College. There is also a hospital at Queanbeyan, and the very small number of patients at Canberra hospital is accounted for by the fact that patients prefer for several reasons to go to Queanbeyan. It is not at all suggested that there is any ground of complaint against the Canberra hospital or its staff, but there is a decided preference for the hospital at Queanbeyan. Whether under these circumstances it is desirable to continue to maintain the Canberra hospital when there is another thoroughly efficient hospital within eight miles capable of being speedily reached by motor-car from Canberra, it is not for me to say; my duty is only to point out the excessive cost of the present state of affairs. One item of the annual cost of Canberra hospital is a contribution of £200 a year to the Queanbeyan hospital. This subscription was originally made upon the ground that a number of employees of the Commonwealth at Canberra were treated at that hospital. Now that they can receive hospital treatment at Canberra, and only go to Queanbeyan because of their preference for that town, it does not appear right or reasonable that the subscription should be continued. Dr. J. R. M. Thomson, resident doctor at Canberra hospital, whose duties involve much work in the matter of sanitary inspection and other work in the interests of public health, has been desirous of enlarging the work of the hospital by providing for maternity cases, and this he affirms could be done without any considerable expense. He also states that, besides the patients who are treated in the hospital, there are out-patients, some of them living at a considerable distance from the hospital, who receive regular attention, and that any attendance by him upon any employee of the Commonwealth is without charge, even in cases where long distances have to be travelled to the patient's residence. He also dispenses all medicines required at the hospital, and assistance is given by the matron and nurses in nursing patients at their own homes.

30. A considerable amount of evidence has been given with regard to the expenditure at the various arsenal sites. This expenditure as far as it has been allocated amounts to £706 at No. 1 site, £9,918 at No. 2 site, and £225 at Tuggeranong. The expenditure at No. 1 site, in the events that have happened, represents so much money lost. With regard to No. 2 site the chief part of the expenditure is in respect of the pump-house, machinery, and pipe-line provided to supply water to the arsenal during its construction. Mr. J. T. Noble Anderson, in his evidence, condemns this work, because he says that the required water supply should have been provided, not by pumping, but by a dam near the arsenal site, and gravitation. He gave a "rough approximation" of the probable cost of such a dam, stating it at £400, and is

fully confident that such a work would have served the necessary purpose. Assuming his estimate of cost to be correct, I am still doubtful whether his dam would be sufficient, because although there seems to be a good run-off from the Mt. Ainslie ridge to the spot where a dam would have been located, there is no certainty at all that the rainfall necessary to fill the dam would have come in time. It was desired that the work should be begun as soon as possible after 9th November when that site was adopted, and that it should be pushed on with all possible expedition, and if a dam had been immediately excavated there is no certainty that it would have been filled within six months thereafter. The work might, and probably would have been at a standstill for want of the necessary water supply, and having seen the locality I am very doubtful whether a sufficient supply of clean water could have been obtained from the dam described by Mr. Anderson, even if the season had been favorable. I cannot hold Colonel Owen to blame for having preferred the pumping scheme which would make a supply of water a certainty. Then it is said that even if a pumping scheme were necessary, the one adopted was a great deal too expensive for a temporary work. The rising main from the pump-house to the site is 5,000 yards in length, for which a 4-in. steel pipe has been used, with 370 yards of 3-in. galvanized-iron piping for the purpose of reticulating water at the site. It is objected that as this was merely a temporary work, galvanized-iron pipes should have been used instead of steel, and that these could easily have been taken up and relaid wherever required for other work. There is no doubt that the galvanized-iron pipes would have been cheaper, and more cheaply laid and removed, but I think it is a matter for the judgment of an engineer whether on the whole one description of pipe would serve the purpose better than another, and I cannot see in Mr. Anderson's evidence any convincing proof of decided superiority in the alternative that he suggests. I do not think that the evidence goes far enough even to prove that there was an error of judgment in laying this pipe-line, or in respect of the materials used in its construction. A much more serious objection to the work appears to me to be its insufficiency for the purpose for which it was designed, as it is by no means clear that the plant would have been sufficient to supply as much water as would be required at the site. The capacity seems to have been 20,000 gallons during eight hours (19872) and as there is no provision for storage on the site this must be taken to be the full quantity available, and upon works intended to employ 400 men and where a great deal of concrete was to be mixed, it seems doubtful whether this supply would have been adequate. Mr. Noble Anderson in considering the capacity of his proposed dam intended to provide a supply of 100,000 gallons a day (5298). The cost of this work for water supply amounts to £2,704. Where the remainder of the sum of £9,918 spent on No. 2 site has gone, it is impossible to ascertain. The assets in existence and evidence of work done do not account for anything like £7,214. As usual the accounts furnished are obviously inaccurate. The accounts were kept both by the Works Branch and the Account Branch with the usual contradictory result, the accounts branch showing a total expenditure of £11,141, and the Works Branch a total of £11,533.

31. Charges of waste were made in connexion with a Caroline mixer for cement, and in connexion with the purchase of an 8-horse power Fowler traction engine. I do not think there is negligence in either case. The Caroline mixer broke down completely shortly after it was first put in use, but this was because of a latent defect which could not have been discovered upon close examination. As to the 8-horse power Fowler, it seems to have been carefully tried before purchase, and though it is not as efficient as other traction engines and was not on the whole a good purchase at the price, I do not find on the evidence that any negligence in this case has been proved.

32. Another comparatively small matter is the position in which the wind gauge has been placed. It is sheltered on the east, south and west, by buildings that are within 20 yards of it. But Mr. Hunt states that this position was designedly chosen to correlate with the evaporation gauges, and that this position was, for some scientific reason not quite clear to me, the most desirable. What I was the more surprised at was that it should have been placed at Acton. The information most urgently required was as to the force of wind on the actual site of the city, but there is no gauge there nor ever has been, as it is stated that the cost of having it there would be greater than would be justified. As one very vehement conflict of opinion between Mr. Griffin and the other officers of the Department was as to the force and prevalence of winds

at Canberra, and the necessity of providing adequate wind-breaks, it appears to me that information on this point was most urgently required, and could only have been obtained by a wind gauge on some part of the actual city site.

33. Another small matter is a charge of defective design for centering for the shaft to be put down at the Murrumbidgee. Admittedly the design for centering did not provide for sufficient strength for the intended purpose, but this error was discovered and rectified and only very slight monetary loss incurred.

34. A very important matter on this question of waste is with regard to timber bought for seasoning and subsequent use in the Territory. The total debit on this account is £20,633, and the timber includes a large quantity of cedar, Queensland maple, Huon pine, black bean, and celery-top pine. The first lot of timber was bought prior to July 1913, by Mr. Giles Dobney, a timber expert of 41 years' experience with Australian timbers. This consisted of maple, Huon pine, blackwood, and celery-top pine to the total value of £6,397, and under his direction it was stacked on ground that had a slope of one in ten, and the layers of timber were separated by battens so as to provide for ventilation. Other timber was subsequently bought by Mr. William Simmonds, Clerk of Works in the Department of Home Affairs, who has had considerable experience in the purchase and seasoning of timbers in England, but had been in Australia only three years, when in January 1914, he purchased large quantities of maple and cedar for the Commonwealth at Pyrmont. This timber was sent up to Canberra and in some cases put into stack at once, but sometimes for want of men to handle it, was simply thrown down on the ground, and stacked after the lapse of some time. The stacks were made on level ground. Logs of all dimensions were put together almost promiscuously, and only occasionally was provision made for ventilation of the stack. Some of the cedar and other timber was stored in a shed built for that purpose, other timbers, including cedar and maple, were left out in the open. Mr. Bethell, who inspected this timber in November 1916, states that in his opinion no proper provision was made for storing the timber, and not even the ordinary precaution adopted of painting the ends of the logs to help preserve them, and that in consequence there has been very serious loss by reason of splitting, cracking, and warping. Mr. Bethell estimates that by reason of dry rot, cracking, and warping, and other deterioration, the timber has depreciated to the extent of £3,439. This estimate is based upon the quantity of good timber in the stacks calculated at the rate of the original purchase. I do not think this is quite fair, because a certain amount of deterioration and loss of timber during seasoning must be allowed for, and it is obvious that the value of seasoned timber must be greater than that of green timber. Upon these figures, assuming Mr. Bethell's calculations to be right, the conclusion is to be drawn that 25 per cent. of the timber has been lost by deterioration since it has been in stack. Much evidence was given on both sides as to the amount of this loss. Mr. Dobney, whose opinion is of great value, puts the total from all causes at a very small figure, while other estimates approach that of Mr. Bethell. Having inspected the timber I am of opinion that the amount of loss has not been over-estimated by Mr. Bethell. The greatest loss is in the cedar and maple. Heart logs of both these timbers in every instance show very serious splitting, and also radial cracks extending from the heart in every direction. Some very large cedar logs suitable originally for cutting into planks, could now only be used by first cutting out the heart the full length of the log and then making whatever use possible of the rest of the log for the purpose of small pieces of timber suitable for furniture, mouldings, and such work. Even assuming that one-half of the log could be used in this way, and that in many cases is, I think, an undue assumption, the difference in value between cedar in small pieces and in planks has to be reckoned. In the maple also there has certainly been very serious deterioration and loss. I put the total of the loss of timber at the amount fixed by Mr. Bethell, and attribute it mainly to the purchase of heart timber instead ofitches; and also to the fact that green timber was sent down to Canberra in the middle of summer and left out in the open without any painting or other protection from the sun or from hot winds. It must be evident that experience in seasoning timber in the moister air of Melbourne or Sydney would be an insufficient guide in respect of timber at Canberra. It would certainly have been prudent for the officers to have gained some experience in timber seasoning at Canberra before purchasing so largely for the Commonwealth. Want of such experience and lack of care of the timber has resulted in loss that might have been avoided.

WORK DONE UNDER CONTRACT PRICES.

35. To support the contention that work done at Canberra had been carried out at moderate cost, evidence was given that in two instances work had been done by day labour by the Department at much less cost than would have been involved if it had been carried out by contract. Mr. Connell (16352-S; 17188-93; 24701-73) in evidence shows that after the design and specification for Stromlo and Red Hill reservoirs, and pipe-line from Stromlo to Red Hill had been drawn, and the reservoir at Red Hill excavated but not lined with concrete, tenders were called for completing the whole work. The Departmental estimate of cost for the work was £29,800, whereas the lowest tender, which excluded cartage, was £39,600. No tender was accepted, and the work was carried out by day labour. The Red Hill Reservoir under this system cost £900 above the Departmental estimate, but this is stated to have been in consequence of an increase in wages from 9s. to 13s. 2d. per day. £3,000 was saved on the Departmental estimate at Stromlo, and £1,000 on the pipe line from Stromlo to Red Hill, and therefore the whole work was carried out at a cost of £3,100 less than the estimate, and £12,900 less than the amount of the lowest tender. Mr. Rolland also gave evidence with regard to the erection of four cottages for Captain's quarters at Canberra, that tenders had been called upon the plans and specifications, and that the lowest tender received was £920 for each cottage, and the next tender £1,125. These tenders were not accepted, and the cottages were built by the Department, the total cost being £4,430, or £1,107 10s. each. But included in this amount were certain items such as excavation, linoleum, electric installation, and additions to the original plan, and other items, together costing £1,020, so that the work tendered for was performed by the Department for £3,410, or £852 10s. for each cottage. I see no reason to question the *bona fides* of the tenders nor the evidence as to the actual cost of the work, but it is obvious that this evidence is not of great assistance for its intended purpose of proving economical construction of works by Commonwealth officers. With regard to the engineering works the Department had all necessary plant at Canberra. They also had a staff of officers and workmen engaged there, but a contractor would have to provide for the carriage and return of all plant required, and would also have to secure a staff of officers and workmen, and would necessarily make liberal allowance for these costs, and also for unforeseen expenditure likely to occur by reason of want of experience of the locality. He would also have to provide under the awards accommodation for the workmen who were sent to Canberra, and they being men in his employ and "sent" there for that job only, would certainly be entitled to country allowances under the various awards. Similar considerations would affect a tenderer's estimate of the cost of the four cottages. The evidence therefore is not by any means convincing to show that the Departmental methods were economical. As to the engineering works, the estimate was presumably made on the basis of cost to the Commonwealth of such works as Canberra.

SUMMARY.

36. For reasons already given it is a matter of the utmost difficulty to discover in the majority of cases what the cost of any work really was, and it is therefore difficult to say in any particular case where excessive cost is the question, whether there has been such excess or merely defective bookkeeping in recording the expenditure. Some cases of waste, as I have indicated, are beyond question: the aerial ropeway, the hiring of George Wilson's horse, the expenditure on the Cotter-road deviation are examples, and I think I am bound to consider these as indicative of some degree of carelessness and want of thought in design and management. They cannot be mere phenomena, although they may be to a certain extent exceptional, and although it is difficult to prove excess in a particular building, I think Mr. Hiscock's evidence that all the buildings taken together cost 120 per cent. more than is reasonable, under the circumstances is convincing as to a very large proportion of that cost. That this was in a great part caused by the average inefficiency of labour I think must be taken to be proved. That it was also in part caused by the extra wages and allowances paid to the workman is, I think, also clear, but part of the excess cost must be attributed to the want of system that seems always to have prevailed at Canberra. In the Works Branch, for instance, from first to last there never has been a proper costing system. Several efforts have been made to establish a system, but these

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have always failed. The fact that Colonel Owen, Mr. Hill and some other officers had their headquarters in Melbourne, and only visited Canberra at intervals no doubt prevented the close supervision that they might have exercised if they had been resident.

37. Certain of the evidence given appears to indicate that works at Canberra were, in some cases at least, carried out in a haphazard manner without sufficient definiteness of plan or of purpose. Certain cases in point have been mentioned. Another notable case is that of the power-house. At first the intention was that it should be merely a temporary work; then a permanent structure was intended, and it was to be on concrete foundation and with galvanized-iron walls, then after some progress of the building had been made, it occurred to Colonel Owen that brick walls would be preferable, and that there were 250,000 bricks at the brickworks available for the purpose. Then it was found that the bricks, although available, were not suitable, and once more the design was changed and concrete walls were decided upon and the building was finished in that manner. With regard to the hospital too, there was an intention at first as evidenced by the documents that the buildings should be merely temporary. The next idea was that it should be "semi-permanent" and should serve for 10 years or more until a permanent hospital should be built. It has apparently been finished as a permanent hospital. Another illustration is found in respect of the Cotter dam. It was intended that this dam should be only 90 feet high, but when it was well on towards completion a sudden discovery was made that to raise it 10 feet higher would impound 560,000,000 gallons more water, and that this extension would cost £3,000 only and that the dam was of sufficient strength to support this extra height. At the brickworks the first plant erected was for the manufacture of bricks under the semi-dry process. It was an after-thought and later discovery that the semi-plastic process was better suited to the shale, that in fact the semi-dry process was wholly unsuitable for material containing so much lime as the shale in the Yarralumla deposit. Similar evidences of changed intentions in the carrying out of works are shown in other cases, and the want of forethought thereby indicated must be counted among the causes inducing to excess cost at Canberra.

38. The causes that I have mentioned are, I think, mainly responsible for the waste in construction at Canberra. But in my opinion tens of thousands of pounds would have been saved if from the outset there had been proper consideration for the comfort of workmen. The men who have been employed at Canberra, in almost every instance, have made large savings out of their wages, because there is neither need nor opportunity for much expenditure. If comfortable cottages had been available, efficient workmen would have been anxious to go there and stay there, and no need would have arisen for the engagement of 167 men from Melbourne, and the return of 117 of their number with fares paid, because of inefficiency. With homes provided for their residence at half or one-third the rent that would be required in Melbourne or Sydney, workmen from other cities and towns, such as Goulburn and Cooma, would have applied for employment at Canberra and no question could have arisen as to country allowances, and no liability to pay railway fares or other expenses would have been incurred. The Commonwealth also, as the lessor of such dwellings, would have been the possessor of a highly remunerative investment. These considerations seem to have appealed to Colonel Owen in respect of the Tuggeranong arsenal, for his intention was that concrete cottages should be provided at moderate rent for all men to be employed there. He fails to give any sufficient reason why similar consideration was not extended to the men at Canberra.

39. Upon all the evidence I have to find that there was an excess of cost in construction of buildings, probably amounting to 40 per cent. beyond what should have been the cost at Canberra, and that there was considerable excess of cost in the construction of other works, the amount of which cannot be estimated, but is certain to have occurred, for the same causes that increased the cost of labour and stores applied to buildings, must have operated also in respect of other works. Railway freights and cartage would probably add 15 per cent. to all cost of material: this addition was unavoidable. Of the estimated 40 per cent., 20 per cent. may be assumed as attributable to allowances to workmen, including fares, payment for gazetted holidays and wet weather, inefficiency of a proportion of the men employed, and the slowing-down described by Mr. Rolland: 10 per cent. excess cost may easily have resulted from want of control and want of care of stores, and 10 per cent. from want of system, and from errors

by the officers. This latter estimate is not wholly without data. The rope-way at Red Hill added 7 per cent. to the cost of the work; the deviation on the Cotter-road more than that percentage; the want of knowledge of officers as to brickmaking and kiln-building added about 200 per cent. to the necessary cost of the brickworks, and the other matters of changed design must have involved double cost of items in many cases. Then too there are the cases in respect of large items where many thousands of pounds are shown in excess of any conceivable cost. I have already stated the defective bookkeeping may be the real explanation of some items, but in only two cases are items stated at less than reasonable cost, and these together are not more than £1,500 below value; while taking the total of buildings at £104,000, I certainly think that £30,000 of that cost is neither explained nor justified: Mr. Hiscock says £56,000. The officers attribute the high cost to freights and cost of labour, making the allowances stated for those causes and also for waste of stores, there is still an outstanding excess of cost for which no necessary cause has been alleged. If I by any error or oversight do the officers any injustice in this estimate, I can at least be certain that their want of consideration for workmen has caused most of the excessive cost and lack of efficiency of labour of which they complain, and that their lack of care of Commonwealth property has caused serious losses of material and stores.

I have the honour to be,

Your Excellency's most obedient servant,

WILFRED BLACKETT,
Commissioner.

Melbourne, 3rd April, 1917.