UTI/WAT/1#5

C.S.

PUBLIC WORKS

No. 271/24

1924.

Crown Agents

192 4

9th January

Previous Paper.

SUBJECT.

Submission of Scheme for Water supply in Stanley.

Proposed water supply ex Spring at Saddle Hill.

MINUTES.

Crown Agents Letter of 9th Jan 1924 ——— Encl (1)

Plans of proposed Scheme ——— " (1A)

Y.E.

Submitted

G.R.L.?B
Ag C/Secr
7 April 1924

It appears not improbable to me that the Crown Agents mistook their instructions but please forward this to Mr Neave for his information and such observations as he may consider necessary

[illegible] 8 April 24

Mr A.A. P. Neave

Referred

G.R.L.?B
Ag C/Secr
8 April 1924

P.a. with S.I. Spk. 29 Sept 24

P.A. 24/1/[illegible]

Subsequent Paper.

Hon C.S.

Pl. see my remarks attached (2)

[signature]

15 May 1924.

Y.E.

Submitted

[signature] 5 June 1924

Letter from Mr. Mean dated 24th June 1924. (3).

This has been detached from C.S. Confid: 14/1924.

H.C.S.

It would be of assistance in considering the matter if Mr Mean would be so good as to give an approximate estimate of how the sum of £20,000 is arrived at assuming the water is piped to a reservoir supply above the town.

[signature]

25 June 1924.

Mr. A.A. Pheare Consulting Engineer

Refused. It is proposed that the reservoir shall be made of puddled clay

[signature] 27 June 24

C.S.O. No. 271/24

Inside Minute Paper.

Sheet No. 2.

Hon. C.S. 28th June 1924

I attach typed copy of the basis of estimate prepared for my report dated 15th May (No2 of this docket).

This was based on quantities taken off Crown Agents drawing No Z 21-19 but assumed a site for the main storage reservoir being selected on the pipe line route within reasonable distance of Stanley; the reservoir being formed in clay cutting with part clay embankment lined with concrete as indicated, lining of clay work being essential for the protection of such work & consequent cleanliness of the water.

(D.O.B.)

Enclosure - Typed basis of estimate.

Y.F.

Submitted

30 June 24

H.C.S.

Will you please have this circulated for consideration in Exc. Co. in connection with 257/1923 & 465/24.

19 July 1924

Hon Ag Treasurer
Hon Colonial Surgeon
Circulated
by C. Ibbotson
Clerk Executive Council
19 July 1924

Encl 3 to Falkland Islands Dispatch
No 75 of 14 Aug 1924 Encl 3 to 2

Y.S. The C.A. plan has been withdrawn from this dep.? Is it with Y.S. please. I suppose to let Mr. Roberts see it for the plan of the reservoir

11 Sept. 24

H.C.S.
Plan herewith: as it was felt by Mr Rees I removed it & had it mounted. I omitted to return it.
2. Mr Rees did not agree with proposed plan for reservoir on technical grounds. He proposed the plan for reservoir which will be seen in his scheme for supply from Fitz Roy Road.

P.H. 5/3/25

(1)

ALL COMMUNICATIONS
TO BE ADDRESSED TO THE
CROWN AGENTS FOR THE COLONIES,
THE DATE OF THIS LETTER BEING QUOTED,
AND THE FOLLOWING REFERENCE: 8 E.367/8
TELEGRAMS, "CROWN, LONDON."
TELEPHONE, 7730 VICTORIA.

CROWN AGENTS FOR THE COLONIES

COLONIAL SECRETARY
1 APR 1924
FALKLANDS

4, MILLBANK,
WESTMINSTER,
LONDON, S.W. 1.

9th January, 1924.

Sir,

His Excellency the Governor has requested us to prepare a scheme for the supply of water to Port Stanley and we enclose a copy of our Drawing No.Z.2149 embodying our suggestions.

2. We understand that it is his Excellency's wish that the cost should be kept down to the lowest possible figure. The scheme which we have prepared must be considered as the absolute minimum to meet the most pressing needs of the town but we are of opinion that it will lend itself to expansion if funds are available at a later date. It must be understood that the only data which we have available is that contained in Mr. Neave's preliminary report on the water supply, drainage, roads, housing and lighting at Port Stanley dated February 1923. As we ourselves are not familiar with the conditions prevailing in the Falkland Islands you may find it necessary to modify our proposals in some respects to meet local requirements.

/3. If

The Colonial Secretary,
Falkland Islands.

CA

x

3. If reference is made to paragraph 20 on section 2 of Mr. Neave's report it will be seen that he refers to a small stone run on the side of Saddle Hill. It is from this stone run that we suggest the supply should be drawn. Mr. Neave's remarks regarding this stone run are as follows:-

> "The nearest approach to a proper spring
> "that I have been able to discover is in a
> "small stone run on the side of Saddle Hill
> "as indicated approximately at "X" on plan
>
> "No.2 This spring is situated at roughly
> "300 feet above Sea Level, and appears to be
> "a very good water - probably better than any
> "other in the locality although analysis is not
> "available. I visited it several times during
> "the drought but its flow measured over weir was
> "not more than about 5 gallons per minute, too
> "small by itself for the needs of the town."

It should be remembered that Mr. Neave was endeavouring to find a water supply for a much more comprehensive scheme to be used in conjunction with a water borne sewerage scheme but our proposals are that sufficient water for domestic use such as drinking, cooking etc, should be provided in the first instance whilst retaining the existing supply for other purposes. Furthermore, Mr. Neave visited this spring during the longest drought known and we think it is fair to assume that at other times the flow of 5 gallons a minute mentioned would be considerably increased, this we suggest should be verified by further gaugings. If this should prove to be the case we suggest that this stone run would provide a suitable source for a limited supply. It is possible that if the

/stone

stone run is opened up to a greater depth, the supply may be increased, as part of the flow may be travelling underground.

4. We do not propose that house to house connections should be made but that stand pipes should be erected at convenient places in the streets and the householders carry in buckets sufficient water for the needs of their households. By this means we consider that the consumption would be kept down to very small dimensions and at the same time the most pressing needs would be met. If necessary the stand pipes could be fitted with automatic taps allowing only a certain quantity of water to be drawn at each operation of the tap thus preventing waste of water if taps are left running. We consider that an allowance of about 7 gallons a head of population should suffice. This figure is about one-fifth of the daily consumption in large English towns. It will be seen that a constant spring of quite a small size would be sufficient, if a storage reservoir of suitable capacity is provided for an exceptional "draw off" in the case of fire or temporary failure of the supply.

5. Taking for the purposes of an estimate that the population of Stanley amounts to 1,000 and allowing 7 gallons per head, the daily consumption will amount to 7,000 gallons which is equivalent to a continuous supply of approximately 5 gallons per minute. This demand we think could safely be met by the spring above mentioned.

6. The arrangements for catching and filtering the water are clearly indicated on the drawing we enclose. It will be seen that we propose a small concrete dam should be placed across the stone run alongside of which two small concrete tanks should be formed, these tanks are to be filled with sand to form a rough filter. From this spot a 4"

/diameter

diameter cast iron pipe is run to the reservoirs. The actual site of the reservoir we are unable to determine but it should be so situated and be at such a level that any other springs in the vicinity can be led to it at a later date if necessary. We understand that there may be difficulty in obtaining sufficiant broken stone and stone dust for making the concrete, and suggest that arrangements for the supply of this stone broken ready for use by the Admiralty plant now in the Colony. We are not, however, aware whether you have sufficient fine material for rendering the insides of the tanks which must of course be watertight and should be a fairly fine mixture. We suggest the reservoir, which should be constructed of concrete, should have a capacity of 700,000 gallons or 100 days' supply. The reservoir should be divided by a partition wall into two compartments and the supply to the town should be drawn from one of these compartments only at a time so that in cases of emergency, such as fire, or a burst main, the whole of the reserve supply could not be run off. This arrangement will also be useful when it is necessary to clean the tanks.

7. We estimate the cost c.i.f. Port Stanley of the necessary cement, cast iron pipes, valves, bends, jointing material etc., at £5,900. Whilst it is not possible for us to form anestimate of the cost of the work entailed in the Colony it is possible that the information now furnished may enable this to be prepared locally. We have allowed in this estimate for the provision of a 4" diameter main through the town but nothing is included for the cost of the stand pipes as we are not aware how

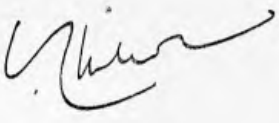
/many

many of these it will be necessary to provide, but in any case the cost would be small.

I have the honour to be,

Sir,

Your obedient Servant,



fo Crown Agents.

(2)

15th May, 1924.

The Honourable
The Colonial Secretary,
STANLEY.

The question of the Moody Brook Valley as a source of water supply was dealt with at some length in my Preliminary Report dated February, 1923., and the possibilities of a reduced supply from the spring referred to in these papers has been subsequently considered but I do not recommend going so far for so little.

The cost of the scheme detailed on the drawing attached to these papers, calculated on a similar basis to that for the proposed supply from Mile Pond,(vide my report dated 30th April, 1924) but extending a single main through the town to the East end (i.e. ½ mile further than dotted on drawing) and allowing for 3 No: public fountains and 10 No: fire hydrants as is apparently the intention, is approximately £20,000.

Whatever water scheme is finally adopted however I do not advise a less extensive arrangement of mains and fire hydrants in the town than that indicated on my drawings dated April, 1924 (Water Supply Nos: 2 & 3), which provides for a fire hydrant within reasonable distance of almost every building in the town (as well as provision for water connections to piers and some of the more important buildings), and which I have recommended as the minimum which should be adopted to ensure reasonable fire precaution.

To extend the scheme under review so as to provide an equally well spaced system of fire hydrants would require an additional £2,000; whilst to provide a sufficient supply for house connections and for watering vessels at piers (if required) would involve further expenditure in the construction of a considerably larger storage reservoir.

Assoc: M. Inst: C.E.

~~C.S. Office~~

C.S. M.P. 241/24.

(3)

Port Stanley,

FALKLAND ISLANDS.

24th June, 1924.

STANLEY IMPROVEMENT SCHEME.

Water Supply etc:.

Sir,

enclosure (2) in C.S.O. Confidential 17/24.

With reference to your minute No: 17/24 dated 23rd June, 1924., I beg to report that I have further considered the question of the Moody Valley as a possible source of water supply on the lines recently suggested to me, and whilst of opinion that this valley undoubtedly offers a very promising source of supply were the requirements of Stanley and available finances greater, yet having regard to all the local circumstances and particularly to that of the expenditure involved I am unable to recommend the adoption of this valley as a source of supply.

2. I do not consider that a scheme for domestic supply from this valley can be evolved at an appreciably lower figure than the £20,000 estimate mentioned in my report of 15th May, 1924 on the question of a supply from the Saddle Hill Spring based on an allowance of 7 gallons per head of population per diem.

3. A possible alternative to the Mile Pond Scheme put forward with my report dated 30th April, 1924 would be the adoption of a modified supply from the catchment situated on the apex of Sapper's Hill, which should be within the financial means of the Colony.

Such

Such a scheme, based on an allowance of say 7 gallons per head of population per diem to be supplied from street fountains, might be evolved to work on purely gravitational lines, cutting out the annual expenses of the pumping involved in the Mile Pond scheme, at a somewhat lower figure than the Mile Pond scheme; the cost being to a certain degree dependent on the extent of the reticulation of water mains adopted.

4. Should you desire I shall be glad to submit plan, basis of estimate, and particulars of such gravitational scheme observing that as regards catchment off an area on which peat occurs I do not anticipate difficulty in obtaining a guarantee from mechanical filter manufacturers that such water can be rendered suitable for potable purposes.

I am,

Sir,

Your obedient Servant,

The Honourable

The Colonial Secretary,

STANLEY.

PROPOSED WATER SUPPLY EX. SPRING AT SADDLE HILL.

BASIS OF ESTIMATE.

7 gallons per head per day
1 man in town.

			£. s. d.	£.
	Allow for transport plant, etc:, and sheds on site of works.			500.
	Collecting works and filters.			100.
	Storage Reservoir.			
2,600 yds: cube	Excavation	at 8/-.	1040. 0. 0.	
800 yds cube	Fill.	at 3/-	120. 0. 0.	
700 yds cube	Concrete lining	at 70/-.	2450. 0. 0.	
95 Squares	Shuttering	at 80/-	380. 0. 0.	
			3990. 0. 0.	
	Inlet & Outlet valves, etc.		80. 0. 0.	
			£4070. 0. 0. (say)	4,000.
	Pipe Line.			
6½ miles	4" C.I. main	at £1700 per mile.		11,050.
½ mile	3" C.I. main extension in town	at £1500 per mile.		750.
3 No:	Public fountains	at £25.	)	
10 No:	Fire Hydrants	at £7.10.0.	)	
5 No:	Stop Valves	at £6.	) (say)	180.
				£16,580.
	Contingencies 10%.			1,658.
				£18,238.
	Engineering, Administration etc: 10%.			1,824.
				£20,062.

SAY £20,000.

			£
Extension of mains & fire hydrants etc:.			
1 mile	3" C.I. main	at £1500 mile.	1,500.
18 No:	Fire Hydrants	at £7.10.0.)	
3 No:	Public fountains	at £25.)	
5 No:	Valves	at £6.)	240.
			£1,740.
	Contingencies 10%.		174.
			£1,914.
	Engineering, Administration. 10%.		191.
			£2,105.

SAY £2,000.

5

COPY.

Port Stanley,
Falkland Islands,
24th June, 1924.

STANLEY IMPROVEMENT SCHEME.

Water Supply.

Sir,

With reference to your minute No. 17/24, dated 23rd June, 1924, I beg to report that I have further considered the question of the Moody Valley as a possible source of water supply on the lines recently suggested to me, and whilst of opinion that this valley undoubtedly offers a very promising source of supply were the requirements of Stanley and available finances greater, yet having regard to all the local circumstances and particularly to that of the expenditure involved, I am unable to recommend the adoption of this valley as a source of supply.

2. I do not consider that a scheme for domestic supply from this valley can be evolved at an appreciably lower figure than the £20,000 estimate mentioned in my report of 15th May, 1924 on the question of a supply from the Saddle Hill Spring based on an allowance of 7 gallons per head of population per diem.

I am,
Sir,
Your obedient servant,
A. A. P. NEAVE.

The Honourable the Colonial Secretary,
Stanley.

(52)

PROPOSED WATER SUPPLY EX. SPRING AT SADDLE HILL.

BASIS OF ESTIMATE.

		£
Allow for transport plant, etc:, and sheds on site of works.		500
Collecting works and filters.		100

Storage Reservoir.

			£	
2,600 yds: cube	Excavation	at 8/-	1040	
800 yds: cube	Fill	at 3/-	120	
700 yds: cube	Concrete lining	at 70/-	2450	
95 Squares	Shuttering	at 80/-	380	
			3990	
Inlet & Outlet valves &c.			80	
			4070	say 4000

Pipe Line.

6½ miles	4" C.I. main at £1700 per mile		11050
½ mile	3" C.I. main extension in town at £1500 per mile		750
3 No:	Public fountains	at £25	
10 No:	Fire Hydrants	at £7. 10. 0d.	
5 No:	Stop Valves	at £6	say 180
			£ 16,580
	Contingencies 10%		1,658
			£ 18,238
	Engineering, Administration, &c.10%		1,824
			£ 20,062.

SAY £20,000.

Extension of mains & fire hydrants &c.

			£
1 mile	3" C.I main	at £1500 mile	1,500
18 No:	Fire hydrants	at £7 10/-	
3 No:	Public fountains	at £25.	
5 No:	Valves	at £6	240
			£ 1,740
	Contingencies 10%		174
			£ 1,914
	Engineering, Administration 10%		191
			£2,105.

SAY £2,000.