

2217	2217
1641/A	

(Formerly)

CAMP ROADS & BRIDGES.

See PWD/9/2

CONNECTED FILES.

"Roads + Bridges"

NUMBER

- 2217 Same title . A.C.S. SAFE *confidential*
- 0452 Stanley Roads.
- 1641A Camp Tracks.
- 004013 Development Policy - schemes.
- 004014 Application for Additional funds for Roads.
- 2217A Camp Roads vehicle statistics.
- 04521A Notes on Stanley Roads. by M.P. O'Reilly.

438
1

The Falkland Islands Sheepowners Association,

(LOCAL COMMITTEE)

STANLEY, FALKLAND ISLANDS.



7th August, 19 62.

Sir,

ROADS.

At the Annual General Meeting held in Stanley last month it was unanimously agreed to request Government to pay early attention to the need for roads throughout the Colony, and on a motion by Mr. Cameron, seconded by Mr. Luxton, it was agreed to seek the Labour Federation's support in drawing Government's attention to this pressing need.

At the Joint Meeting of the Sheep Owners Association and Falkland Islands Labour Federation, Mr. Gilruth expressed the Association's views which were whole-heartedly endorsed by the Sub Committee of the Labour Federation and later by their General Committee.

It was therefore resolved to request you to send the following telegram to His Excellency the Governor now on leave in Britain.

SHEEP OWNERS ASSOCIATION AND FALKLAND ISLANDS LABOUR
FEDERATION IN JOINT CONFERENCE JULY 25/27 UNANIMOUSLY
REQUEST YOUR EXCELLENCY TO BRING THE URGENT NECESSITY
FOR ROADS THROUGHOUT THE COLONY TO THE ATTENTION OF
HER MAJESTY'S GOVERNMENT BEING OF THE OPINION THAT
THE CONTINUED LACK OF THESE AMENITIES BRINGS THE COLONY
EVER CLOSER TO THE DAY WHEN THE SHEEP-FARMING INDUSTRY
WILL FIND ITSELF TOTALLY UNABLE TO RETAIN FALKLAND
ISLAND BORN LABOUR OR TO ATTRACT THE RIGHT TYPE OF
LABOUR FROM BRITAIN OR ELSEWHERE.

I am,
Sir,
your obedient servant,

2

Telegram accdly.

5
8/8/62

J. Gilruth
Secretary.

The Honourable
The Colonial Secretary,
STANLEY.

Copy in 0040/8

DECODE.

2

TELEGRAM SENT.

From GOVERNOR to SECRETARY OF STATE

Despatched : 9.8.62

Time : 1500

Received :

Time :

No. 96. Please pass following to Governor begins Sheep Owners Association and Falkland Islands Labour Federation in joint conference July 25th to 27th unanimously request Your Excellency to bring the urgent necessity for roads throughout the Colony to the attention of Her Majesty's Government being of the opinion that the continued lack of these amenities brings the Colony ever closer to the day when the sheep-farming industry will find itself totally unable to retain Falkland Island born labour or to attract the right type of labour from labour from Britain or elsewhere. ends

Officer Administering the Government.

3
Sfc R. extract copy of 1.2 to Development Policy file + then bu for Exca 20.10.62

PL:TB

Copy in 0040/S

Bu Exca 20.10.62

WRITTEN
REPLY

FOR TUESDAY, 20TH NOVEMBER, 1962.

- 9. SIR ANTHONY HURD, - To ask the Secretary of State for the Colonies, if, in response to requests from the Falkland Islands, he has now arranged for a survey of the possibility and cost of providing all-weather roads between the main settlements in the colony.

ANSWER

MR. SANDYS: A member of the Road Research Laboratory will visit the Falkland Islands between March and May, 1963, to investigate the feasibility of building roads between the main settlements in the Colony.

B11 10.2.63
~~1.3.63~~

DECODE.

No. 34.

TELEGRAM SENT.

From SECRETARY OF STATE to GOVERNOR

Despatched: 1.1.63 Time: 1615 Received: 2.1.63 Time: 1015

No. 1. Road construction.

A grant of £4.00 from Colonial Development and Welfare Fund visit of expert from Road Research Laboratories approved. Scheme D5305. Details follow by savingram.

2. Following information could usefully be collected before expert's arrival in March.

- (i) Number and distribution of population in various communities throughout Islands.
- (ii) Number and type of mechanically propelled vehicles in these.
- (iii) Any other information e.g. commodities which would tend to be transported over a road system in preference to present method.

3. Appraisal of sources of road building materials one of the most important aspects of visit since road construction and maintenance costs much influenced by these. Assessing of deposits of materials necessitates digging of trial pits and hope local labour available. Set of 4 inch diameter hand Augers of post hole or Jarett type needed. Alternative tractor mounted post hole Auger could be used. If none is available locally advice can be given on their purchase.

4. May RRL obtain any air photographs prints required from Directorate Overseas Survey.

Secretary of State

Reply at 12.

6.

G.T.C. : HB & TB
TYPED. : IH
(Intld.) DM

Done 5/1/63 | Cons para 3 to SPW for report.

para 4 answer that to Mrs

Can we get figures of 2 (i) from Census. No records of 2 (ii)? If not I think we shall have to ask the frames.

2(iii) This might be transfer of Dept without produce 10 stamps which is not done transfer under act - all attached 4/1/63.

7.

ACS

SPW asked to provide inf re para 5 of
telegram

RSC asked to provide population
figures.

Police do not have records of vehicles
in camp stations.

D. H. P.

7.1.63

No. _____

It is requested that in any reference to this memorandum the above number and date should be quoted.



7th January, 19 63.

To: The Honourable, _____
 The Colonial Secretary, _____
 STANLEY. _____

From: Superintendent of Works,
 P.W.D.
 Stanley, Falkland Islands.

SUBJECT:- Extract from Telegram from S of S to Governor.

For the appraisal of sources of road building materials I would suggest the engineer contacts Dr. R.J. Adie, Department of Geology, The University, Birmingham 15. in the U K, a recognized authority on the disposition of rock outcrops and stone runs in the Falkland Islands.

There is an abundance of bed rock outcrops and stone runs throughout the Falkland Islands, but not always easily accessible.

Most of the outcrops and stone runs appear to be a mixture of quartzite, a tough metamorphic rock and quartzitic sand stone, (quartzite predominant).

This rock shows varying degrees of hardness, depending on the extent to which it has been weathered; metal crushed from this does not give a very good cubical shape, it appears to resist abrasion and brittle fracture and has been used on all the Stanley Roads.

Apart from inland outcrops and runs, beach deposits are in some places easier accessible.

According to Geological reports, quartzite outcrops are common to the Northern Heights and should be fairly accessible from Stanley to as far as Fitzroy where they tend to swing to the north. From Fitzroy to Darwin the stone becomes of a softer nature and I would not like to say whether it would be a suitable road material.

There are no hand augers or, tractor mounted post hole augers available, I should not think they were necessary, owing to the number of outcrops and stone runs.

P. Pictor
 Supt. of Works.

KIV 7

RSC

HCS would be grateful if you would mark the population figures against the settlements on the attached map Index pl.

DR

7.1.63

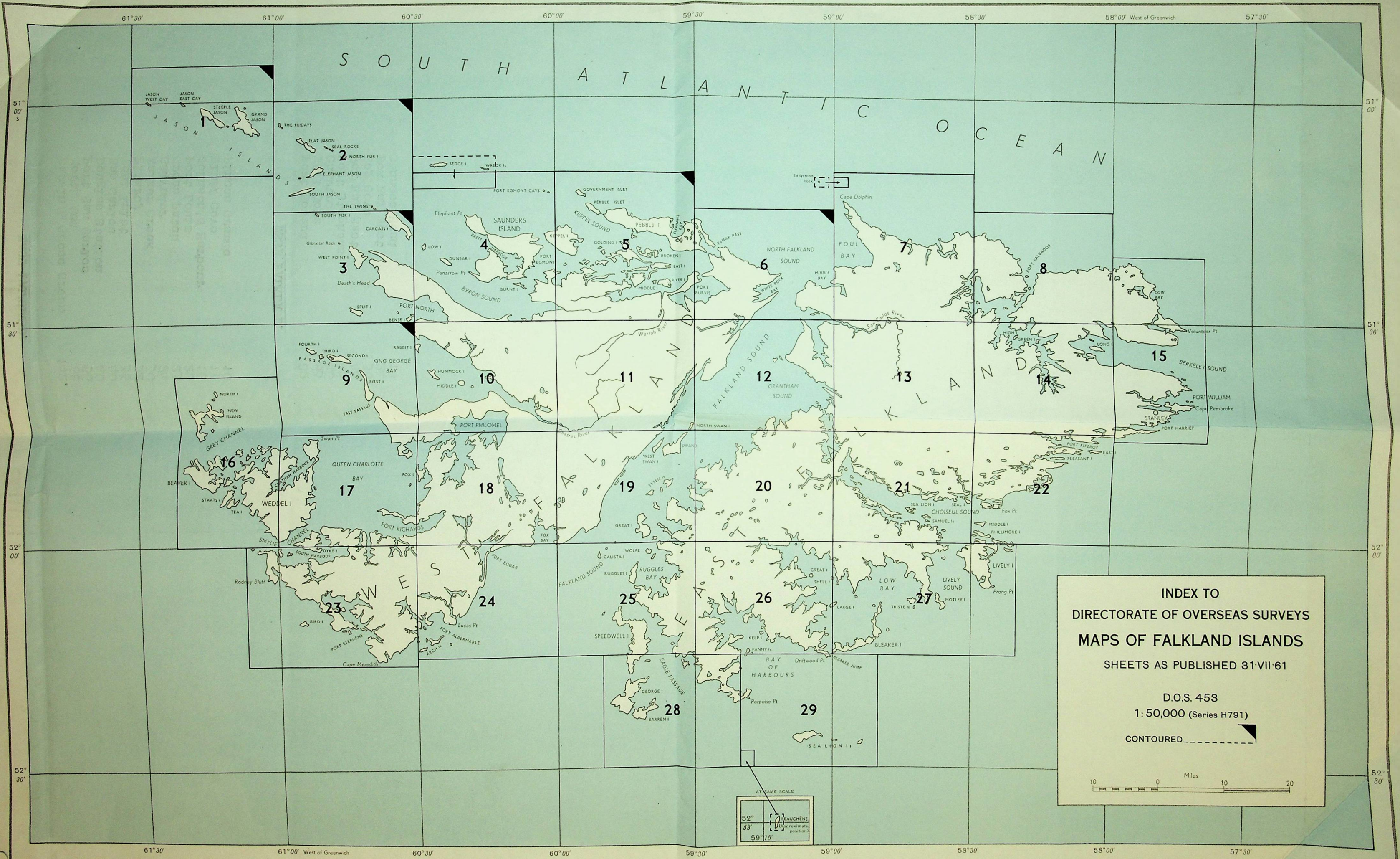
Hon. Col. Sec.,

The approximate population of the Farm Stations on East and West Falklands are listed on the back of the attached map.


J. B.

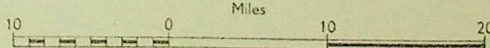
7.1.63.

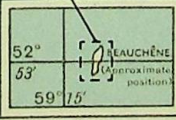
FALKLAND ISLANDS



INDEX TO
DIRECTORATE OF OVERSEAS SURVEYS
MAPS OF FALKLAND ISLANDS
 SHEETS AS PUBLISHED 31-VII-61

 D.O.S. 453
 1:50,000 (Series H791)
 CONTOURED 





11

EAST FALKLAND.

Darwin & Goose green	142.
North Arm	68
Port San Carlos	56
Douglas Station	40
San Carlos	40
Teal Inlet	36
Fitzroy	32
Walker Creek	30
Salvador	24
Green patch	23
Port Louis	20
Johnson's Harbour	16
Bluff Cove	11
Rincon Grande	10

WEST FALKLAND.

Port Howard	82
Hill Cove	63
Chartres	46
Port Stephens	45
Fox Bay East	44
Roy Cove	36
Fox Bay West	24
Dunnose Head	18

DECODE.

12

TELEGRAM SENT.

From GOVERNOR to SECRETARY OF STATE

Despatched: 8.1.63 Time: 1045 Received: Time:

5

No. 5. Your telegram No. 1. There is abundance of bed rock outcrops and stone runs throughout the Falklands not always easily accessible mostly mixture of quartzite, tough metamorphic rock, and quartzitic sandstone - quartzite predominant. Hardness varies with extent of weathering. Metal crushed from it gives rather poor cubical shape. Appears to resist abrasion and brittle fracture and has been used on all Stanley roads. Beach deposits are in some places easier accessible. Quartzite outcrops are common near track from Stanley to Fitzroy about 20 miles but for next 40 miles odd to Darwin stone softer and perhaps unsuitable. Please consult Professor Adie Department of Geology University Birmingham 15. He is recognized authority on disposition of rock outcrops and stone runs in Falklands. No hand augers or tractor mounted post hole augers. Suggest they may be unnecessary considering number of outcrops and stone runs. R.R.C. may obtain air photographs from Directorate Overseas Survey. Other information being collected.

gn.

mail ?

RHDM:/LH

No mail
D.P.M.
12.1.63

11 is what we want as far as it goes but
 we will then have to find a way which makes
 the settlements or get somebody to make plans for
 instead of writing all the ~~names~~ ^{names} I would like
 to find to put A for Doverton & S. S. in the north
 and in 11, B for North Lane & so on.
 We would have to send this information ^{home} ~~home~~
 it will do when he comes.

We will have to get particulars of vehicles as
 advised for future managers or we can
 visit him at 11. I would like it was if we could
 make ⁱⁿ outside houses. We could perhaps find
 at the bottom of 11. It denotes outside houses
 occupied by single family ~~which was not~~ ^{Probably}
 would obtain one or of wheel transport if these were
 roads" 5/2/62

FST. 12/1/02

25
14

2217

Saving

From the Secretary of State for the Colonies.

To the Officer Administering the Government of FALKLAND ISLANDS

Date 3 January, 1963

(COLONY)

No. 1 Saving



5

My telegram No. 1.

Roads Construction - Visit of an Expert

A grant of £400 from Colonial Development and Welfare Funds has been approved. The number of the scheme is D.5305.

Six copies of memorandum C.D.&W.(D) No. 7126 are enclosed.

SECR.

THE FALKLAND ISLANDSRoads Construction - Visit of an Expert.
Grant of £400

The Falkland Islands have no roads outside the capital, Stanley. In order to investigate the feasibility of building roads in the ~~camp~~ it is proposed to make available the services of an expert from the Road Research Laboratory to visit the islands in 1963. His terms of reference would be:

- "1. To examine and report upon the standards and methods of road building in the Falkland Islands that are suitable for the expected traffic and are appropriate to the different forms of terrain on the islands and to the resources likely to be available.
2. To suggest in consultation with the Falkland Islands Government the lines of a road network which would meet the needs of the islands.
3. To suggest means whereby the work of constructing and maintaining roads on the islands might be organised and to indicate the likely order of costs of the forms of construction and maintenance recommended."

The Road Research Laboratory will ~~continue~~ to bear the cost of the officer's salary. The cost of his passages and subsistence in the Falkland Islands for a four to six week stay would be borne by Colonial Development and Welfare Funds.

27¹⁶ It is accordingly proposed to make a grant of £400. A financial summary is attached as Appendix 'A'.

COLONIAL OFFICE,
SANCTUARY BUILDINGS,
GREAT SMITH STREET,
S.W.1.

OCTOBER, 1962

APPENDIX 'A'FINANCIAL SUMMARY

- | | | |
|----|---|------------------------|
| 1. | Administering authority | Colonial Office |
| 2. | Allocation | Falkland Islands |
| 3. | Classification | Communications - roads |
| 4. | Description of Scheme | Visit of road expert |
| 5. | Total cost | £400 |
| 6. | Colonial Development and Welfare required | Grant of £400 |
| 7. | Basis of administration for accounting purposes | Single head : £400 |

APPENDIX 'B'

DETAILED ESTIMATES

Return Air fares (economy class) to Montevideo (a)	£297.15s.
Subsistence Montevideo 4 nights @ £5	
Stanley 43 nights @ £1.10.	84.10s.
Contingencies	17.15s.
	<hr/>
	£400. 0s.
	<hr/>

(a) The Falkland Islands Company have offered free passages from Montevideo to Stanley.

H.C.T.,

17a

14-17. Please see 25 - 28.

SPW has kindly offered to put him up in Stanley but should be paid 30s. a day as allowed or 10s. as we pay now or something in between?

(Intld) DM. 19.2.63

H.C.S.,

17b

I wonder what SPW would consider reasonable. Anything below 30/- would be fully authorized; but I consider this rate to be much too high.

(Intld) LG 20.2.63

A.C.S.,

We spoke.

17c

(Intld) DM. 22.2.63

DECODE.

33
18

TELEGRAM SENT.

From GOVERNOR to SECRETARY OF STATE

Despatched: 4.3.63 Time: 1415 Received: Time:

5

No. 22. Your telegram No. 1. Visit Road Research engineer. Please telegraph firm date arrival Montevideo.

Governor

P/L : HLB/LH

Reply 33 19

B.U. 10. 3. 63

DECODE.

No. 62.

TELEGRAM SENT.

From SECRETARY OF STATE to GOVERNOR

Despatched : 7.3.63 Time : 1943 Received : 8.3.63 Time : 0950

~~33~~ 18 No. 13. Your telegram No. 22. Visit Road Research engineer.
Comet flight BA 661 arriving Montevideo 1440 hours 22nd March.

Secretary of State

P/L : LH

KIV accommodation

Noted thank you

(Intld.) IEM
8.3.63

36 20
g. E for information
or 11/3/63.

DECODE.

TELEGRAM SENT.

From GOVERNOR to SECRETARY OF STATE

Despatched : 13.3.63 Time : 1410 Received : Time :

19

No. 26. Your telegram No. 13.

Assume hotel accommodation arranged for O'Riley on arrival
Montevideo. If not please advise.

Governor

P/L : HLB/LH

Reply 27.

Y. E.

Mr. O'Riley arrives on March 29th and departs on 6th May. The only long letter we have on the subject of his visit is 5 which we answered by 12. The CDW memorandum is at 15 which gives some idea of what he intends to do. I have spoken about this matter to the SPW. I do not think we can make a definite programme for him until we meet him and discuss matters with him but it would no doubt be desirable to contact Farm Managers with tentative ideas subject to confirmation or alteration by R/T after he arrives. I do not think that there is any doubt that he will have to visit places situated in different parts of the East and West Falklands, but I presume that he will not have to go over the track of every contemplated road or go to every station. I imagine that the question of how many places he has to go to will depend to some extent on geological considerations. I would tentatively suggest something on the following lines -

Advise on Stanley roads.

- i. In Stanley to study maps, population and figures, etc. and also get a general idea of the nature of the country - say 4 to 7 days.
- ii. To West Falkland (I think it would be as well to get the part that has to be done by air over first) by air to Roy Cove - 1 day
 overland from Roy Cove to Hill Cove - 1 day
 overland from Hill Cove to Chartres - 1 day
 overland from Chartres to Fox Bay - 1 day
 ? by air to Port Stephens - 1 day
 ? by air to Port Howard - 1 day
 return - in Stanley - 1 day
- To East Falkland
 overland with SPW to Darwin - 2 days
 overland from Darwin to Port San Carlos - 1 day
 overland from Port San Carlos to Teal Inlet - 1 day
 return to Stanley - 1 day

2. This leaves a good deal of time for expansion. It may also be that he should go to Salvador, Rincon Grande and Port Louis. Shall I get something out to the Managers suggesting this programme very tentatively and asking if they could co-operate by providing transport and also to let us know any dates that they would especially wish us to avoid?

2.

15th March, 1963.
RHDM/FH

7A
16.3.63

23

S.P.W. 22 for information. (Who would
want you to take him out at that time.)

If you have no comments, I will get out
letters to be flown.

10/3/63

24

H.C.S.

Whenever he wants to go to
Darwin I will manage.

D. Pictou - S.P.W.

18/3/63.

Ref: 2217.

Colonial Secretary's Office,
Stanley, Falkland Islands.

20th March, 1963.

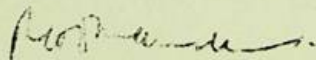
Sir,

I am directed to inform you that an expert from the Road Research Laboratory, Mr. O'Reilly, will be arriving in the Falklands on 29th March to investigate the possibility of building roads in the camp. He will be leaving on 6th May. It will not be possible to make out a programme until he has arrived but I am to write this letter now to enquire whether I may count on your co-operation if required. It is assumed that he will wish to visit a number of the farms and that he will require transport.

2. The present only tentative idea is that, if it were convenient to those concerned, he would proceed to the West after about a week in Stanley, starting at Roy Cove and working over land via Hill Cove and Chartres to Fox Bay East, possibly visiting Port Stephens and Port Howard later by plane and that on return to Stanley he should proceed to Darwin by Government Rover going from there to San Carlos, Port San Carlos and Teal Inlet. Whether it will be necessary for him to visit other places in the East will have to be decided after his arrival.

3. I am to enquire whether I may assume that I can count on your kind co-operation in carrying out the programme finally decided on in providing accommodation and transport. If there are any particular days or periods in which it would be inconvenient for you to have Mr. O'Reilly I should be glad if you would let me know. I trust you will excuse me if I make final arrangements by tele gram or RT.

I am,
Sir,
Your obedient servant,



COLONIAL SECRETARY.

The Manager,
See over.

26.

Issued to the Managers of farms below:

Bluff Cove
Port Howard - 35
Roy Cove - 37
Chartres - 34
Hill Cove
Port Stephens
Fox Bay West - 30
Fox Bay East - 31
Walker Creek
San Salvador
Teal Inlet - 29
Douglas Station
Rincon Grande
Johnsons Harbour
San Carlos - 32
Port San Carlos - 33
North Arm
Darwin - 28
Fitzroy

16.
21.3.63

One not sent to Green
Patch. 21.3.63

DECODE.

No. 28.

TELEGRAM SENT.

From SECRETARY OF STATE to GOVERNOR

Despatched : 20.3.63 Time : 2245 Received : 21.3.63 Time : 1450

21

No. 16. Your telegram No. 26. Hotel accommodation for O'Reilly arranged through B.O.A.C.

Secretary of State

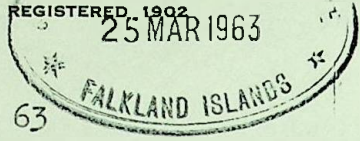
dm

P/L : LH

Bul 28.363

The Falkland Islands Company, Limited.

INCORPORATED BY ROYAL CHARTER 1851



REGISTERED OFFICE:
120 PALL MALL.
LONDON, S.W. 1

22 - 3 - 63

DARWIN,
FALKLAND ISLANDS

TELEPHONE WHITEHALL 6077/8

TELEGRAMS "FLEETWING PORTSTANLEY"

The Colonial Secretary,
Colonial Secretary's Office.
STANLEY.

25

Sir,

I have to acknowledge receipt of your letter dated 20th. March which refers to Mr. O'Reilly coming to investigate the possibility of road construction in the Colony.

We shall, of course, help the man in any way that we can, but I must add that I am surprised that he is to be in the Colony such a short time.

I am,

Sir,

Your obedient servant,

A. G. Gilchrist

Ack'd LH
25/3/63

800

29.

The Colonial Secretary,
Stanley.

TEAL INLET LTD.
TEAL INLET,
FALKLAND ISLANDS.

March 24th. 1963



Sir,

25

I have to acknowledge your letter of March 20th. 1963

Ref. 2217.

I should be glad to provide any assistance to Mr. O'Reilly on his forthcoming tour of the East Falklands, whilst investigating the possibility of building camp roads.

I will be away from Teal Inlet from April 12th. to 16th. And from April 19th. to 21st.

Yours faithfully,

Manager Teal Inlet Ltd.

Ack'd
JH
26.3.63

52'

See 2/4/63 for justice replies to 25.



Fox Bay West,
West Falklands.
26th. March 1963

The Honourable Colonial Secretary,
Secretariat,
Stanley.

Dear Sir,

25

I acknowledge receipt of your letter dated 20th. March '63 regarding Mr O'Reilly of the Road Research Laboratory, who will be arriving in the Falklands on March 29th.

We shall be pleased to offer him at any time, accommodation and transport, which he may require during his visit in this particular area.

Yours faithfully,

J. Robertson
Manager.

Ad'd. LH
29/3/63

Bu. 2/4/63

*Packe Bros & Co Limited
Fox Bay Falkland Islands.*



29th. March, 1963.

Sir,

I refer to your Ref:2217.of the 20th.March,1963.

I can assure you,that we will do everything possible to assist Mr.O'Reilly on his tour of the West and transport by Rover will be provided.

I should be grateful if you would say to Mr.O'reilly that we shall be delighted to see him and hope that he will stay with us during his visit to Fox Bay.

I am sure that a message either by telegram or R/T.regarding Mr.O'Reilly's movements will be quite sufficient.

I am,

Sir,

Your obedient servant,

LONDON

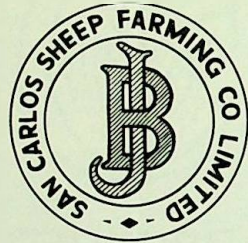
H. H. Clement

The Hon,The Colonial Secretary,
Stanley.

25

32

MEMORANDUM FROM
THE MANAGER



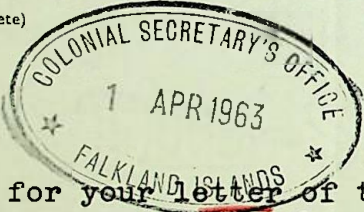
The Hon.
The Colonial Secretary,
Secretariat,
STANLEY.

SAN CARLOS.
FALKLAND ISLANDS. (VIA MONTEVIDEO)

Telegraphic Address: "JAYBEE, PORT - STANLEY"
CODES: Bentleys. (Complete)

26th March, 1963.

Your Ref: 2217.



Sir,

25

I thank you for your letter of the 20th March with reference to the visit of the Road Research Laboratory Official, Mr O'Reilly.

Naturally I shall be happy to afford Mr O'Reilly ^{every} assistance. It will be quite convenient for him to come at any time during April, though it might be as well if it could be arranged for him to avoid being this way on the weekend of the 20th April as we hope to ^{be} away at Port San Carlos attending the North Camp Dog Trials.

I note that he will have Government transport to Darwin, but assume that he will be dependent on private vehicles or horses from then on.

Yours Faithfully,

J.R. Bomer.
Manager.

Ack'd. LH
1/4/63



Ref: 2217.

Colonial Secretary's Office,
Stanley, Falkland Islands.

20th March, 1963.

Sir,

I am directed to inform you that an expert from the Road Research Laboratory, Mr. O'Reilly, will be arriving in the Falklands on 29th March to investigate the possibility of building roads in the camp. He will be leaving on 6th May. It will not be possible to make out a programme until he has arrived but I am to write this letter now to enquire whether I may count on your co-operation if required. It is assumed that he will wish to visit a number of the farms and that he will require transport.

2. The present only tentative idea is that, if it were convenient to those concerned, he would proceed to the West after about a week in Stanley, starting at Roy Cove and working over land via Hill Cove and Chartres to Fox Bay East, possibly visiting Port Stephens and Port Howard later by plane and that on return to Stanley he should proceed to Darwin by Government Rover going from there to San Carlos, Port San Carlos and Teal Inlet. Whether it will be necessary for him to visit other places in the East will have to be decided after his arrival.

3. I am to enquire whether I may assume that I can count on your kind co-operation in carrying out the programme finally decided on in providing accommodation and transport. If there are any particular days or periods in which it would be inconvenient for you to have Mr. O'Reilly I should be glad if you would let me know. I trust you will excuse me if I make final arrangements by tele gram or RT.

I am,
Sir,
Your obedient servant,

COLONIAL SECRETARY.

33 A

*For timely convenient
any time
every co-operation*
MS

The Manager,
PORT SAN CARLOS.

314

CHARTRES SHEEP FARMING CO. LTD.,

CHARTRES



31st March 19 63

Sir,

25

Your letter 20th March Ref:2217. I will readily offer Mr O'Reilly all the assistance I can when he comes this way. It may well be that I will not be able to attend to him personally if we are dipping but as that depends on the weather I could not state specifically any convenient or inconvenient date. Pending further notice I will expect him during the second week in April.

2 Would you please advise about the employment of foreign labour. We have here a Uruguayan maid who was granted an entry permit about a year ago presumably. She has been working here for 6 months and now wishes to go back to Uruguay during the winter and while we are on leave and return to work here when we come back in October. Has anything to be done about her re-entry in to the colony.

Miss
Dennis

Extracted

to

OSCO/A/1/v

I am, Sir
Yours faithfully

A handwritten signature in dark ink, appearing to be "H. L. ...".

The Hon. Colonial Secretary
Stanley

Extract 2 to ... file

Done
34.63

Ack'd
3/4/63

JAMES LOVEGROVE WALDRON
LIMITED.

Telegraphic Address:
HOWARD, FOXBAY, FALKLANDS.
BENTLEY'S CODE USED.

Port Howard,
West Falkland Islands.



April 2nd. 1963.

The Colonial Secretary,
Stanley.

Dear Sir,

25

Reference your letter 2217 of March 20th.

We shall be pleased to see Mr. O'Reilly and will give him any help possible.

The writer will be leaving Port Howard on May 1st., so it would be preferable for him to visit us before this date.

Yours faithfully,

JAMES LOVEGROVE WALDRON LTD.

Mr. P. Evans FALKLAND MANAGER.

XIV extract on
34

ack'd
TB
2.4.63.

GOVERNMENT TELEGRAPH SERVICE

36

FALKLAND ISLANDS

SENT

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			3.4.63
To	etat TM2 MANAGERS FOX BAY EAST CHARTRES (BY W/T)			HOA/c

Following programme suggested for O'Reilly stop 8th April fly to Fox Bay
10th by land to Chartres returning Stanley 11th stop Please reply earliest
if convenient

Colonial Secretary

KIV extract on 34

Time HLB/LH

GOVERNMENT TELEGRAPH SERVICE

INLAND DEPARTMENT

BRIT



3.4.63

HOH\o

DECODE.

TELEGRAM.

No. 29.

From Mr. Miller, Roy Cove.

To Colonial Secretary, Stanley.

Despatched : 3rd April, 19 63. Time : 0900
 Received : 4th April, 19 63. Time :

25

Yours 20th March just received. Will do all possible for Mr. O'Reilly and any time is suitable for visit.

Miller

P/L : LH
(Intld.) DM

DECODE.

TELEGRAM.

No. 31.

From Mr. Luxton, Chartres.

To Colonial Secretary, Stanley.

Despatched : 4th April, 19 63. *Time :* 0900

Received : 4th April, 19 63. *Time :* 1645

Will be busy dipping 10th to 13th would prefer
O'Reilly came 8th and to Fox Bay 9th if convenient
to Mr. Clement failing that any time after 13th.

Luxton

P/L : LH
(Intld.) DM

DECODE.

TELEGRAM.

No. 27.

From..... Mr. Clement, Fox Bay.....

To..... Colonial Secretary, Stanley.....

<i>Despatched :</i>	4th April,	19 63.	<i>Time :</i> 0900
<i>Received :</i>	4th April,	19 63.	<i>Time :</i> 1645

O'Reilly convenient anytime.

Clement

P/L : LH

GOVERNMENT TELEGRAPH SERVICE

FALKLAND ISLANDS

SENT

40

Wi P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			5.4.63
To	etat MANAGER FOX BAY EAST			HOA/c

Due to dipping arrangements at Chartres have arranged O'Reilly fly Chartres 8th and arrive overland yours 10th returning Stanley 11th stop Hope this convenient

Colonial Secretary

Reply 45

Time HLB/LH

GOVERNMENT TELEGRAPH SERVICE

FALKLAND ISLANDS**SENT**

41

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			5.4.63
To	etat MANAGER CHARTRES			HOA/c

Have arranged O'Reilly fly Chartres 8th and proceed Foxbay by land 10th

Colonial Secretary

Time HLB/LH

GOVERNMENT TELEGRAPH SERVICE

FALKLAND ISLANDS

SENT

42

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			6.4.63
To	etat TM2 Manager Darwin and Port San Carlos (BY W/T)			HOA/c

O'Reilly will visit Chartres and Fox Bay next week and plans to arrive Darwin overland 16th April and leave again for KC by land 18th returning Stanley by air 19th stop Hope this is convenient to you

Colonial Secretary

Tim HLB/LH

Colonial Secretary's Office,
Stanley, Falkland Islands.

Ref: 2217

5th April, 1963.

Sir,

Camp Roads

Given below for your information is an itinerary drawn up by Mr. O'Reilly in connection with his investigations regarding the possibilities of constructing Camp roads.

West Falkland

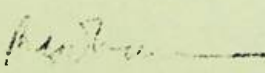
8.4.63	Stanley to Chartres	by air
9.4.63	At Chartres	
10.4.63	Chartres to Fox Bay	by land
11.4.63	Return to Stanley	by air

Visit to Port Stephens if required to be arranged later.

East Falkland

16.4.63	Stanley to Darwin	by land
17.4.63	At Darwin	
18.4.63	Darwin to Port San Carlos	by land
19.4.63	Return to Stanley	by air

I am,
Sir,
Your obedient servant,



COLONIAL SECRETARY.

The Manager,
See over.

HLB/LH

44

Issued to the Managers of farms below:

Bluff Cove
Port Howard
Roy Cove
Chartres
Hill Cove
Port Stephens
Fox Bay West
Fox Bay East
Walker Creek
San Salvador
Teal Inlet
Douglas Station
Rincon Grande
Johnsons Harbour
San Carlos
Port San Carlos
North Arm
Darwin
Fitzroy

41

6th April, 1963.

2.

45

DECODE.

No. 79.

TELEGRAM.

From Mr. Clement, Fox Bay.

To Colonial Secretary, Stanley.

Despatched :	19	Time :
Received :	6th April, 19 63.	Time : 1215

40

Thank you for telegram arrival O'Reilly here overland 10th quite convenient.

Clement

P/L : LH
(Intld.) DM

GOVERNMENT TELEGRAPH SERVICE

46

FALKLAND ISLANDS

SENT

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			9.4.63
To	etat O'REILLY CHARTRES	(Conf. copy 'phoned W/T Station 9 am/9th)		HOA/c

Necessary adjust your Darwin Port San Carlos tour as follows
 23rd to Darwin 25th to San Carlos 26th to Port San Carlos 27th
 return Stanley grateful your early confirmation this convenient

Colonial Secretary

Time HLB/LH

G. E.

Suggested programme into G at G/L -

Mr. O R. SPW, at discussed on bases of 22

then after a couple of days they come back

with their proposals -

or
9/2/63

48

DOUGLAS STATION

LIMITED

Sheep-farmers

DOUGLAS STATION
FALKLAND ISLANDS

Radio
GREENSHIELDS
PORT STANLEY"

Your Ref: 2217



28th March, 1963.

Colonial Secretary,
Colonial Secretary's Office,
Stanley.

Dear Sir,

In connection with the visit of Mr. O'Reilly from the Road Research Laboratory, I am pleased to advise that we shall be only too happy to co-operate in any way.

Yours faithfully,

J. Reid.
Manager.

Ack'd. LH
8/4/63

50

DECODE.

TELEGRAM.

No. 128.

From Mr. Smith, Johnsons Harbour.

To Colonial Secretary, Stanley.

Despatched :	9th April,	19 63.	Time : 0930
Received :	9th April,	19 63.	Time : 1530

33

In reply to letter will assist Mr. O'Reilly in any way we can to accommodate and transport at his disposal.

Smith

P/L : IH
(Intld.) DM

DECODE.

No. 130.

TELEGRAM.

From Mr. Cameron, Port San Carlos.

To Colonial Secretary, Stanley.

Despatched : 9th April, 1963. *Time* : 0930

Received : 9th April, 1963. *Time* : 1530

Mr. O'Reilly visit quite convenient.

Cameron

P/L : LH
(Intld.) DM

51

GOVERNMENT TELEGRAPH SERVICE

FALKLAND ISLANDS

SENT

52

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			11.4.63
To	etat O'REILLY CHARTRES	(Con. copy 'phoned 4.30/9th)		HOA/c

Governor thinks desirable you should visit Roy Cove and Hill Cove stop
 You could return Stanley 16th stop Please arrange as most convenient to
 Managers

Colonial Secretary

Time RHDM/LH

53

DECODE.

No. 101.

TELEGRAM.

From Mr. O'Reilly, Fox Bay.

To Colonial Secretary, Stanley.

Despatched : 9th April, 19 63. *Time* : 1600

Received : 10th April, 19 63. *Time* :

'Phoned.

46

Yours 9th alteration quite convenient.

O'Reilly

P/L : LH

DECODE.

No. 106.

TELEGRAM.

54

From Mr. O'Reilly, Fox Bay.

To Colonial Secretary, Stanley.

Despatched : 10th April, 19 63. Time : 0900

Received : 10th April, 19 63. Time : 1515

'Phoned 1000/10th.

52

Your 2nd telegram of 9th inst as already discussed visits to Roy Cove and Hill Cove unlikely to provide additional information general camp conditions. Particular examination Stanley Fitzroy and Stanley. Estancia tracks will require week. Postponement of the Darwin Port San Carlos tour means that this must be carried out between visits to Hill Cove and Roy Cove feasible provided flying Stanley possible 12 13 14 15. Alternative re-arrange Darwin Port San Carlos tour from 16/20 in reverse direction. Please advise today.

O'Reilly

P/L : LH

Please see my telegram and his reply.
 I wrote again to S.P.W. He returns that
 Mr. O'M. wants to find out about possible
 mechanics for road making and that he can do so
 on his itinerary and that it is not completely
 possible for him to see all the intricate of
 tracks. His present telegram is not very
 clear but I think he means that he would not
 mind going to the Cox and Ray Cove if he
 could get back here earlier than the 15th.
 Our suggestion was that he should start
 on Tuesday 23rd to Darwin which would
 give him nearly a week ^{more} if he got in on Tuesday
 16th but he could even start a day later.
 Also he would have a week after he returned before 6/5.
 But as we are not paying the higher rates
 we must not be too definite in giving orders

J
 10/4/64

GOVERNMENT TELEGRAPH SERVICE

56

FALKLAND ISLANDS

SENT

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			10.4.63
To	etat O'REILLY FOX BAY			HOA/c

Roy Cove Camp is harder than elsewhere on West and extensive use of rotovators has been made there and Hill Cove in track construction Governor anxious you should see and discuss with Managers stop If Saturday flying day plane will pick you up Hill Cove or Roy Cove otherwise it will mean 16th and possible rearrangement of later programme stop Please advise air service direct from which point you wish to be picked up

Time

EPA
DRM/LH

Colonial Secretary

HCS

We spoke yesterday and a Telegram has been sent to Mr. O'Reilly that he should visit Roy Cove & Charvers while he is on the West.

2. I am sorry I was away when Mr. O'R arrived, for although he may get much information he requires from the new maps, I think it most important that he shd. see all he can both of the East and West Falkland and travel over as many tracks as possible.

3. I wd. like to see him as soon as he returns, and we may also be able to fit in a visit for him to the North Camp.

Mr. O'R.
Saw H.C.
19.4.63



10.4.63

Sollis expects to arrive Fox Bay Friday evening.
 (Grosvenor thinks his sounds a bit optimistic but
 presumably Sollis knows best)

Grosvenor does not like to hold back Philomel as
 we think are waiting at Port Howard.

I suggest sending Mr O'M by Philomel to
 P.S.C. San Carlos. This will take about 12
 hours including stop at Port Howard.

From San Carlos he will go to P.S.C. then back to
 Darwin where G.P.W. can meet him.

This has the advantage of being economical in time
 and sure. I can explain to him that
 the fact that Philomel is going to San Carlos
 has influenced his decision.

I put this to G.E. for consideration.

If G.E. agrees I will send out all necessary
 messages. including one to Port Howard.

21/4/63

HCS

59

We spoke. You will be arranging
 for Philomel to drop Mr. O'R
 at Port S.C.

21.4.63

GOVERNMENT TELEGRAPH SERVICE

60

FALKLAND ISLANDS

SENT

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			11.4.63
To	etat PRIORITY GILBERT DARWIN			HOA/c

Would it be convenient if O'Reilly arrived from San Carlos about Wednesday next as he can get to San Carlos waters by Philonel stop Apologies for delay

Colonial Secretary

Time BMDM/LH

GOVERNMENT TELEGRAPH SERVICE

61

FALKLAND ISLANDS

SENT

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			11.4.63
To	etat BONNET SAN CARLOS			HOA/c

Would it be convenient if O'Reilly arrived from Port San Carlos Sunday or Monday next stop He can get there by Philomel stop Apologies for alteration of plan

Colonial Secretary

Time RHDM/LH

GOVERNMENT TELEGRAPH SERVICE

62

FALKLAND ISLANDS**SENT**

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			11.4.63
To	etat CAMERON PORT SAN CARLOS			EOA/c

Would it suit if O'Reilly arrived in Philomel perhaps Saturday evening could you send him San Carlos Sunday or Monday stop Apologies for alteration in plans

Colonial Secretary

Time RNDM/IH

GOVERNMENT TELEGRAPH SERVICE

FALKLAND ISLANDS

SENT

643

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			11.4.63
To	ctat: O'REILLY ROY COVE			HOA/c

Find that Philomel is now due to arrive Fox Bay Friday evening and sail for Port Howard and San Carlos waters stop Most time-saving and safe arrangement is to go by Philomel to Port San Carlos thence overland via San Carlos to Darwin where Superintendent Public Works will meet you and bring you home stop Voyage in Philomel will be fairly short and through Falkland Sound only stop Hope you agree subject to it suiting farms

Colonial Secretary

Time RIDE/LH

GOVERNMENT TELEGRAPH SERVICE

64

FALKLAND ISLANDS

SENT

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			
To	etat MASTER PHILOMEL		HOA/c	

O'Reilly expects to arrive Fox Bay Friday evening stop Please bring him to Port San Carlos repeat Port San Carlos

Colonial Secretary

Time REIDM/LH

65

DECODE.

TELEGRAM.

From Mr. Cameron, Port San Carlos.

To Colonial Secretary, Stanley.

Despatched : 11th April, 1963. *Time* :

Received : 11th April, 1963. *Time* :

Yes certainly

Cameron

P/L : LH

DECODE.

66

TELEGRAM.

From Mr. Bonner, San Carlos.

To Colonial Secretary, Stanley.

Despatched : 11th April, 19 63. *Time* :

Received : 11th April, 19 63. *Time* :

Yes quite convenient

Bonner

P/L : IH

2217.
Estimated Programme - O'Reilly 67

ETA P.S.C. P.M. 13th April

At P.S.C.	14 th
To San Carlos	15 th
To Darwin	16 th
At Darwin	17 th
Return Home	18 th

Woods SPW however.

Please make arrangements direct

with him

and get firm dates and times

or
Slus info. today 13.4.63

BYE



Colonial Secretary's Office,
Stanley, Falkland Islands.

Ref: 2217

5th April, 1963.

Sir,

Camp Roads

Given below for your information is an itinerary drawn up by Mr. O'Reilly in connection with his investigations regarding the possibilities of constructing Camp roads.

West Falkland

8.4.63	Stanley to Chartres	by air
9.4.63	At Chartres	
10.4.63	Chartres to Fox Bay	by land
11.4.63	Return to Stanley	by air

Visit to Port Stephens if required to be arranged later.

East Falkland

16.4.63	Stanley to Darwin	by land
17.4.63	At Darwin	
18.4.63	Darwin to Port San Carlos	by land
19.4.63	Return to Stanley	by air

I am,
Sir,
Your obedient servant,

[Signature]

COLONIAL SECRETARY.

69

From the conversation in your office on Apr. 8? I understand that the programme for the East Falkland will be at a later date. We presume that P.W.D. will provide the transport and the driver and that they will also visit North Arm in order to inspect the soil etc. of Lefonia.

The Manager,
DARWIN.

HLB/LH

W. C. Gilbert
10-4-63.

42
+
73

*PT note with
copy of telegram
sent.*

69A

HOLMESTED BLAKE & COMPANY, LIMITED.

DIRECTORS: R. BLAKE, E. G. MATHEWS, A. L. DENNIS, MRS. C. A. E. STRONARCH, W. W. BLAKE, L. W. H. YOUNG.

LONDON OFFICE:
120, Pall Mall
LONDON, S.W.1



HILL COVE,
FALKLAND ISLANDS
"BLAKE FOXBAY"

TELEPHONE: WHITEHALL 6077/8

CABLES:

27th March 1962

The Honourable
The Colonial Secretary
Stanley

Dear Sir,

303

With reference to your circle
2217 dated 20th March, we shall
be delighted to see Mr O'Reilly here
and shall cooperate fully in showing
him what he wants to see and
providing transport.

Yours faithfully

Robert Blake

Manager

Ack'd. LH

13/4/63.



NORTH ARM,
FALKLAND ISLANDS.
5th. April, 1963.

Sir,

33

With reference to your letter dated 20th. March, 1963,
Ref: 2217, I will be pleased to give any assistance to
Mr. O'Reilly I am able to.

I am,

Sir,

Your obedient servant,

A handwritten signature in cursive script, appearing to read "P. Reilly".

Section Manager.

Colonial Secretary,
Colonial Secretary's Office,
STANLEY.

Ack'd. LH
12/4/63.

DECODE.

72

TELEGRAM.

No. 129.

From Mr. O'Reilly, Fox Bay.

To Colonial Secretary, Stanley.

Despatched : 12th April, 19 63. Time : 1600

Received : 13th April, 19 63. Time : 1055

'Phoned.

63

Yours 11th inst. I agree.

O'Reilly

P/L : LH

GOVERNMENT TELEGRAPH SERVICE

73

FALKLAND ISLANDS

SENT

Wt P2809 5/61

Number	Office of Origin	Words	Handed in at	Date
	Psy			13.4.63
To				
etat GILRUTH DARWIN				HOA/c

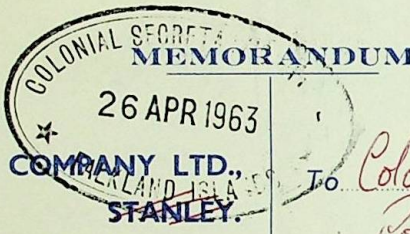
69 Your note regarding O'Reilly SPW will provide transport Darwin to Stanley stop Hope you can arrange transport during his visit Lafonia

COLONIAL SECRETARY

Time HLB/TB

20
 KIV 69A
 BU 13.4.63 (57 para 3)

74



From

Manager

THE FALKLAND ISLANDS COMPANY LTD.,

Port Stephens.

To *H/H* 1963.

*Colonial Secretary,
Port Stanley.*

Dear Sir,

I would like to draw your attention to the fact that I go on leave to the U.K. by the 6th. May sailing to Montevideo.

If it is proposed that Mr. O'Reilly pays us a visit here at Stephens, and we would warmly welcome one, I would be grateful if it could be made as early as possible.

We feel here that the Station would greatly benefit from roads linking it with the rest of the West, more so than most. But appreciate the enormous cost involved in such a scheme.

A visit by Mr. O'Reilly would appease many who are still bitter about nothing being done towards this end of the track by the last Government scheme, however much a failure the last attempt was.

I am on behalf of the people of Port Stephens.

Yours faithfully, Philo Shaw.

Ack'd. *H* 26/4/63

Copy to 16

75

DECODE.

TELEGRAM.

No. 221.

From Miller, Roy Cove.....

To Colonial Secretary, Stanley.....

Despatched :	27th April,	19 63.	Time : 0900
Received :		19	Time :

?

Reference mine 26th inst. Received reply same date.

Miller

P/L : LH
(Intld.) DM

76

Mr. O'Reilly arrived 31st March, 1963

departed 6th May, 1963

77

(i) Would you mind following up 75 a find out for window
state if he better did send a telegram on 26th but
it may have nothing to do with his ~~name~~ file.

(ii) I am sorry we have answered 74 and was to show
his file. In Greece card no doubt give address and also
also of answer is asking at Post Stephens
as at 6/6 to L. Stone with copy to ^{admiral} manager P.S.

9/5/63

76 78

f: 277.

Colonial Secretary's Office,
Stanley, Falkland Islands.

9th May, 1963.

Sir,

74

I am directed to refer to your letter dated 4th April, 1963, and to state that it is much regretted that it was not possible to send a reply to it in time owing to the fact that it only reached this office on the 26th April and even then a reply was delayed owing to the fact that other action was being taken on the file.

2. It is also regretted that Mr. O'Reilly could not accept your invitation to visit Port Stephens. The question of a visit to Port Stephens was of course kept in mind when the programme was being planned but it was found that Mr. O'Reilly could provide a report according to the terms of his reference without going over every track affected.

3. I am however to point out that you can rest assured that the fact that Port Stephens had not been visited would not in any way prejudice the question of making a road to it if a road making programme were to be initiated.

I am,
Sir,
Your obedient servant,

(Sgd.) R.H.D. Manders
COLONIAL SECRETARY.

Mr. R.M.W. Shaw,
c/o The Falkland Islands Co., Ltd.,
120 Pall Mall,
LONDON. S.W.1.

RHDM/IM.

Copy to Ag. Manager, Port Stephens

79

ACS

77 (i) I have checked with the Post Office who have the April telegrams and there is no telegram from Mr. Miller of the 26th. Max has R/T office copy record. Mr. Miller's telegram of 27th is there however - our folio 75.

Don
11.563



No. _____

It is requested that, in any reference to this memorandum the above number and date should be quoted.

26

From: Superintendent of Works,
P.W.D.

Stanley, Falkland Islands.

1st June, 1963.

To: The Honourable,
The Colonial Secretary,
STANLEY.

SUBJECT :- Board O'Rielly.

I have the honour to request payment for the Board and Lodgings of Mr. O'Rielly, Roads Engineer.

25 Days @ 15/-.

£18. 15. -d.

See 17a
A.I. Pas. 81

8/6/63

R. Picton.
Supt. of Works.

82
Has voucher prepared
4/7/63

Bu 30. 7. 63 (mail)

Bu 30. 8. 63 (S)

No mail at 2/9/63

83

HAGS

Advance copy

of O'Reilly's

report. It

can go on the

file. need not

be confidential.

BA

84 30-8-63

file + back to me, please

In Confidence - for personal information

LABORATORY NOTE NO. LN/404/MPO'R.
August, 1963.

BOR.85.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

Road Research Laboratory

REPORT ON THE FACTORS INVOLVED IN PROVIDING A ROAD SYSTEM

IN RURAL AREAS OF THE FALKLAND ISLANDS

by

H.P. O'Reilly

Division: Materials and Construction

Section: Tropical (R.S. Millard)

SUMMARY

Life on the farms in the Falkland Islands, whilst similar in many respects to that in any sparsely populated rural area, is more isolated than most due to the lack of a system of roads linking the various settlements. In recent years increasing interest has been shown in the provision of a road system. At the request of the Governor the writer visited the islands from the 30th March to the 6th May, 1963 to examine and report on the problems involved in providing such a road system. During the visit he travelled extensively in the two main islands, East and West Falkland. The main conclusions and recommendations are as follows:

- (i) The real interest of the people of the Falkland Islands in local travel is demonstrated by the fact that, although there are few roads, there are about 800 mechanically propelled vehicles including motorcycles in a population of 2200 people, i.e. about one vehicle to every three persons, a proportion similar to that in the U.S.A.
- (ii) At present outside Stanley there are only some 10 miles of constructed road. For the rest vehicles travel across the countryside beating out tracks that converge on defined river crossings and on gates in fences. Travelling over the country is most uncomfortable and during the worst weather journeys are undertaken only in case of necessity.
- (iii) In the conditions obtaining, the minimum standard for a constructed road would involve a gravel running surface 10 ft wide and with passing places at intervals. Roads constructed to such a standard would be adequate for the traffic likely to develop.
- (iv) To provide a network of such roads connecting the main settlements on East and West Falkland some 400 miles of road would be needed.
- (v) Between the existing conditions and the gravel roads recommended there is no suitable intermediate type of road or track, because the peaty conditions on the Falkland Islands prevent the evolution of roads from beaten tracks.
- (vi) Road cross-sections for the main types of terrain are recommended, and the prime importance of good drainage from both the road surface and the immediate environs of the roadway is emphasised.
- (vii) Standards of road alignment and for the design of bridges and culverts are suggested.
- (viii) The main sources of road surfacing materials would be decomposing rock supplemented by deposits of beach and alluvial sands and gravels, sandy clays, and creep gravels.
- (ix) The construction of the proposed road system would need to be carried out by contract with the contractor obtaining his labour force, of about 30-40 men, from outside the islands.

- (x) A road maintenance organisation would be required to keep the roads in suitable condition to carry traffic and to preserve the value of the capital invested. This organisation should be part of the existing Public Works Department. This would involve the recruitment of labour from outside the islands.
- (xi) The cost of constructing this road system is difficult to estimate, but it is suggested that it would amount to between £1.6 and £2 million. The recurrent annual cost of maintenance would be expected to be between £20 and £30 thousand.

==

REPORT ON THE FACTORS INVOLVED IN PROVIDING A ROAD SYSTEM
IN RURAL AREAS OF THE FALKLAND ISLANDS

Introduction

1. Life on the farms in the Falkland Islands, whilst similar in many respects to that in any sparsely populated rural area, is more isolated than most due to the lack of a system of roads interconnecting the various settlements. In recent years increasing interest has been shown in the provision of a road system. At the request of the Governor, the writer visited the islands early in 1963 to examine and report on the problems involved in providing such a road system.

2. The problems involved in creating a road system fall into three broad categories as follows:-

- (a) The outlining of the road system required and the priorities to be attached to the various roads in the system.
- (b) The standards to which the roads should be constructed.
- (c) The ways and means of constructing and maintaining a road system and the likely cost of the forms of construction and maintenance recommended.

Itinerary

3. The writer arrived in Stanley on the 30th March, 1963, and spent the first week there with occasional short trips into the adjacent camp.* He then proceeded by air to West Falkland visiting the settlements at Chartres, Fox Bay East, Fox Bay West, Roy Cove and Hill Cove travelling overland between these settlements. Returning by sea to East Falkland he visited the settlements at Port San Carlos, San Carlos, Darwin, North Arm, Fitzroy and Bluff Cove again travelling over the camp in all instances with the exception of the first when the journey was made by motor boat. The remainder of his stay in the Falkland Islands was mainly spent in Stanley in discussions and the preparation of this report but also included a two day trip by Land Rover to Teal Inlet and Douglas Station. The writer departed on the 6th May, 1963.

The road system required

The need for roads

4. At the present time travel in mechanically propelled vehicles between settlements on the Falkland Islands is over the camp in four wheeled drive vehicles or motor cycles. In general there are no defined roadways and tracks wander across the countryside avoiding the more boggy areas and converging on well established bridges, fords and gates. Traffic tends to "follow the leader" and ultimately punches through in the weaker peaty areas (Plate I). The next traveller avoiding this bog hole finds a new route and the process is repeated. Some clay roads have been made in the camp but these are in the areas where travelling conditions are relatively good. These roads suffer from poor drainage and lack of maintenance and many long stretches have been abandoned (Plate II).

/5. Travelling

*In the Falkland Islands the countryside outside Stanley is referred to as the camp from the Spanish word 'campo'.(1)

5. Travelling over the camp is most uncomfortable in comparison with normal travel in a motor car. Some measure of the difficulty experienced can be gleaned from the low average speed of travel. Even in summer time when travelling conditions are at their best average speeds rarely exceed 10 mile/h even for the most experienced camp drivers. Travelling conditions at other times of the year are not as good and the danger of becoming bogged increases until in winter only the hardiest travellers venture forth and then only in case of necessity.

6. All the settlements on the islands are situated on the coast and at present all the farm produce, consisting in the main of wool and hides, and provisions and materials are transported by sea. An air service using two Beaver seaplanes provides a passenger service and medical attention although the high wind speeds prevalent reduce the amount of flying possible.

7. Thus the main object of providing a road system in the Falkland Islands is to provide means whereby people can move easily between the various settlements. Roads would, therefore, be an amenity rather than a necessity but such amenities are common place nowadays in other countries and have become part and parcel of every day life. In addition by providing easy access at all times they help to allay people's fears of isolation e.g. fear that medical attention would not be available in emergency.

8. The desire to travel in the people of the Falkland Islands is illustrated by the data in Tables I, II and III which give details of the distribution of population and mechanically propelled vehicles including motor cycles on the islands. The number of vehicles per head of population about 1 vehicle to every 3 persons is very high being similar to that found in the U.S.A.⁽²⁾ The gross national product in relation to the population is also similar indicating that car ownership is related principally to the wealth of the community. This is somewhat surprising in this instance considering the absence of a road system in the Falkland Islands.

Proposed road system

9. The Falkland Islands consist of two main islands, East Falkland and West Falkland and a number of small islands. Stanley the centre of government and commerce is situated in the north east of East Falkland. None of the smaller islands has more than one main settlement and so communications between them and other main settlements must depend as it does now, on travel by air or sea. The locations of the main settlements on East Falkland and West Falkland are shown in Fig. 1. The islands are sparsely populated about 1 person to every 2 sq. miles and all that could reasonably be expected from a system of roads is the linking together of the main settlements.

10. On East Falkland, Stanley provides the focal point of the road system. The disposition of the farm settlements and east-west mountain range favours the adoption of a loop road running from Stanley via Fitzroy to Darwin crossing the mountains to the west of Bodie Peak and returning to Stanley via Douglas Station, Teal Inlet and Estancia. This would involve the construction of 138 miles of road and the reconstruction of 10 miles of existing road near Stanley. Branches to connect in the remaining main settlements would involve the construction of a further 99 miles of road.

11. On West Falkland a road running from Fox Bay East, where the government services for the island are located, to Hill Cove would provide the spine of the road system. With short branches to Fox Bay West and Chartres it would involve the construction of 54 miles of road and interconnect four settlements. Additional branch roads to connect in the other three main settlements would necessitate the construction of 93 miles of road.

/12. Further

12. Further details of the proposed road system are given in Table IV and the layout is shown in Fig. 1. The main consideration in assessing the priorities to be attached to any length of road was that the maximum number of people should have access to the road system as quickly as possible. In addition existing travelling conditions over the camp between the different settlements and the minimising of unnecessary movement of construction equipment were kept in mind.

Additional effects of a road system

13. The introduction of a road system might result in the principal products on the islands, wool and hides, being transported by road to Stanley on East Falkland and to a single port on West Falkland. The total amount of wool and hides produced is about 2200 tons per annum and the present cost of transporting these by sea to Stanley is about £20,000. Although the cost of transport by road to the producer might be half the present cost by sea a ship would still have to collect wool from the smaller islands. Since the ship is not fully utilised even at present it is unlikely that any real benefit would accrue to the colony since this service would have to be maintained.

14. Other side effects, although of no great economic effect, would have considerable social value. The movement of goods from Stanley to the camp would be more regular and frequent, and with an outlet to Stanley people in the camp might find it worthwhile to supply butter, eggs and vegetables regularly to Stanley. Where settlements are close together children could be sent by car to school and so the amount of schooling they received would be increased. Medical services would be surer; it might be possible to dispense with the services of one of the three doctors on East Falkland. The air service to all the settlements on East Falkland and to all but one settlement in West Falkland would be unnecessary and its efforts could be concentrated on inter-island traffic. Postal deliveries on these two islands would be facilitated and could be more frequent. The road system would provide a most welcome outlet for the townspeople of Stanley. Weekend afternoon motoring would be possible and fishing or shooting expeditions into the camp would be easy.

15. With the increase in traffic and the higher speeds that would result from providing public roads it is likely that the number and severity of accidents will increase. The increase in mileage of rural public road from 10 to about 400, will involve the police in extra duties and a considerable extension of the application of road and road traffic ordinances.

Standards of road construction

The expected traffic

16. At present there are about 800 mechanically propelled vehicles including motor cycles on the Falkland Islands equally divided between Stanley and the camp (Table II). These vehicles are not used extensively and mileages of the order of 2000 per annum are common. Increases in travel are to be expected on the introduction of a road system. However it is considered probable that the larger proportion of this increase would result from increased usage of vehicles. It does not appear likely that the total number of vehicles on the islands would increase greatly although the improved conditions of travel might cause an increase in the number of cars at the expense of four wheeled drive vehicles and motor cycles. In any event there are only 1600 persons over the age of 15 years⁽³⁾ and this places an upper limit on the number of vehicles that could possibly be in use at any time. As the road system outlined above comprises a total of 394 miles of road the picture even in the most extreme circumstances must be one of generally light traffic intensities.

/The

The type of road required

17. The traffic conditions outlined above only justify roads with a gravel surfacing. Roads of this type are widely used and in sparsely populated regions, e.g. Northern Rhodesia where they form at least 95 per cent of the road system.⁽²⁾ Even in the U.S.A. 25 per cent of the road network is in this category.

18. A 10 ft running surface with passing places located at $\frac{1}{4}$ miles intervals or closer if required by inadequate sight distance would easily accommodate the expected traffic intensities on all but exceptional occasions e.g. the Stanley races. Even then delays are not likely to be serious as the traffic flow would be predominantly in one direction.

19. Between the existing camp conditions and the gravel road recommended there is no intermediate type of road or track suitable to the Falkland Islands since the peaty conditions prevent the evolution of roads from beaten tracks.

20. At present all the larger rivers and streams have been bridged or can be forded and it is the general difficulty of the terrain rather than conditions at isolated points which causes travel to be such a continuously uncomfortable experience. In the more peaty and difficult areas, e.g. Stanley to Estancia, the filling up of bog holes and soft spots would virtually result in the construction of a road piecemeal between these points.

21. Maintenance of the approaches to the larger bridges and fords and the relocation at intervals of the smaller bridges and gateways would improve conditions at these points (Plates III and IV). The cutting down of the knobby brows on rough areas with a rotovator without biting too deeply into the peat and destroying the supporting power of the root mattress provides a relatively smoother ride for a time but concentrates traffic and new tracks are required at regular intervals if the improvement in travelling conditions is to be maintained. All these operations help to ensure that movement from point to point is more certain but they cannot make general travelling conditions much more comfortable since they only ameliorate conditions on such small portions of the distances to be covered.

The road cross-section

22. Good drainage of rainwater from the running surface of the road and the vicinity of the roadway are the prime considerations governing the layout of the road cross-section. On gravel roads the efficient draining of the road surface is accomplished by using a steep camber of about 1 in 24 and regular maintenance is essential to eliminate longitudinal ruts and potholes.⁽⁴⁾ In addition the slopes of verges and other drainage arrangements must be such that the water is conveyed away quickly from the vicinity of the roadway. However gradients should not be excessive otherwise erosion may result.

23. The adaption of these principles to conditions in the Falkland Islands requires consideration of the two different types of terrain in the islands:-

- (a) the plains and gently rolling areas
- (b) the mountainous areas.

24. The former areas, situated on the less durable rocks consist in general of a relatively shallow layer of peat overlying clay. Deep areas of peat are not very common and are mainly confined to the vicinity of streams. In the mountainous areas where the impermeable nature of the quartzite and sandstone rocks hampers drainage the peat cover is generally thicker and boggy areas are very common.

25. The type of cross-section suitable for areas where the peat cover is not generally greater than 1-1½ ft are shown in Fig. 2. The dimensions of the cross-section are such that the fill material required for the roadway is obtained from the side drains the dimensions of which are suited to the dimensions of the construction and maintenance plant. These ditches will adequately deal with the low precipitation rates normal in Falkland Islands (see Table V).

26. Water collected in the side drains is discharged clear of the road by turnouts as shown in Fig. 3 when the road and ground slope in the same direction. In sidelong ground the water collected in the uphill drain is discharged into culverts or natural drains and conveyed across the road to discharge on the downhill side.

27. Peat is always a difficult material on which to construct roads and it is best removed and replaced by more suitable materials.⁽⁵⁾ Where this is ruled out for economic reasons and the peaty area cannot be avoided economically then it is common practice to lay a mattress of brushwood, heather or gorse over the peat and construct the road on this. In the Falklands there are few bushes or trees but the upper layers of the peat consist of a mass of intertwined roots. This forms a natural mattress over the humified peat which is capable of supporting quite heavy loads as is shown by the amount of traffic traversing these areas at present. The supporting power of this natural mattress should not be destroyed and it is recommended that the road structure be founded on it where the peat layer is over 3 ft deep. The road would then consist of a low embankment founded at existing ground level. The minimum depth of fill material required over the peat would be 2 ft⁽⁶⁾ and a suitable cross-section is shown in Fig. 3. Side drains should be set well clear of the road embankment as shown to keep the root mattress intact near the roadway.

28. Water collected must again be discharged downhill clear of the road and it is particularly important that culverts especially pipe culverts crossing the road are not founded on peat. All peat under culverts should be removed and be replaced with suitable material preferably sand. The cross-sections shown in Figs. 2 and 4 can be adapted to suit individual circumstances but it is essential to bear in mind at all stages that the efficient disposal of rainwater is most necessary if the road is to perform satisfactorily in service. The decision whether to excavate the peat or form an embankment would be mainly decided on economic considerations but the inferior performance of roads founded on peat should be given due weight in marginal cases.

29. Two lengths of the existing roads near Stanley have been included in the proposed road system (Table IV). They consist of "rock rubble" founded on the clay soil below the peat layers. Their shape and the drainage from them is generally poor while the large size of stone used in their construction precludes mechanical maintenance (Plate V). In this area the peat layer is usually deep and rather than construct new roads it would be better to make use of the existing construction, providing a layer of suitable surfacing material and improving the drainage arrangements.

Geometric standards

30. Standards of both vertical and horizontal alignment on roads vary little from place to place⁽⁷⁾ and only those aspects dependent on local circumstances need be considered here.

31. Considering the light traffic conditions expected and the distances between settlements in the Falkland Islands, drivers are likely to travel at high speeds. Over most areas where the ground surface is flat or gently undulating, roads with horizontal and vertical alignment appropriate to speeds of at least 50 mile/h are both desirable and practicable. In mountainous areas the minimum design speed may have to be reduced to 30 m.p.h. These

/speeds

speeds are minimum values and should be increased in all circumstances where such increases will not involve extra construction costs.

32. Sight distances both horizontal and vertical are of prime importance from a safety point of view. The minimum sight distances provided should be either the spacing between passing places plus twice the comfortable stopping distance at the chosen design speed, measured between points 3 ft 9 in. the road surface or the comfortable stopping distance measured between points 3 ft 9 in. and 1 ft 0 in. above the road surface. 3 ft 9 in. is the average eye level of the driver and 1 ft 0 in. allows for the contingency of sheep and lambs straying on to the road.

33. A gradient of 1 in 25 should ordinarily be regarded as the maximum desirable. However in difficult circumstances steeper gradients up to 1 in 15 would be acceptable for short stretches of road. Steeper gradients on gravel roads are likely to lead to erosion of the road surface and result in increased maintenance costs. (Plate VI).

Road structures

34. Bridges and culverts. The heaviest lorry at present in the Falkland Islands weighs a total of 11 tons when fully loaded. Items of road maintenance and construction equipment likely to be used on road works on the islands could weigh up to about 15 tons. Bridges and culverts should be designed to carry these loads and a design live loading equal to half the HA loading specified in B.S. 153:1954⁽⁸⁾ would be suitable. This recommendation assumes that steps will be taken to limit the size and carrying capacity of commercial vehicles which can be imported into the Falkland Islands. Bridges should be at least 10 ft wide between kerbs. Kerbs at least 12 in. high surmounted by tubular parapets are desirable.

35. The proposed road from Stanley to Fitzroy would cross Port Fitzroy on the existing bridge (Plate VII) there. This bridge, Fitzroy Bridge, has a timber deck and longitudinal beams supported on concrete piles. No construction records are available but the piles appear to be generally in a good condition. It is suggested that a detailed survey including loading tests on a few representative pile tests should be carried out to assess the carrying capacity of the pile substructure. If this proves adequate, which is a reasonable possibility, then the superstructure could be reconstructed to carry the required loads. If the substructure were inadequate then consideration could be given to a number of alternatives:-

- (1) Constructing a 5 mile length of road to circumvent Port Fitzroy.
- (ii) Constructing a new bridge at the present site
- or (iii) Placing a load restriction on the existing bridge and making heavier loads travel to the southern parts of East Falkland by the longer route via Teal Inlet and Douglas Station.

36. The location of the roads was influenced by the desirability of reducing the number of large bridges to a minimum. Thus the road from Darwin to Douglas Station crosses the San Carlos river in its upper reaches although this results in a small increase in the length of road required.

37. Paved fords ("Irish Bridges") could be used as an alternative to bridges at some of the larger river crossings e.g. the Malo. On the smaller streams especially those with relatively high banks meandering through deep peat deposits this alternative would not lead to any great initial economy. This form of river crossing is more difficult to maintain than a bridge and travel during periods of flood is not possible.

38. The rainfall data in Table V enables an estimate to be made of the flood volumes which will only occur infrequently. Considering the other

/uncertain

uncertain factors involved a simple expression relating run-off to the catchment area could be used.⁽⁹⁾ For conditions in the Falkland Islands calculation indicates that $Q = 200 A^{2/3}$ where Q is the run-off in cusecs and A the catchment area in square miles would give a reasonable estimate of the flood intensities to be considered. However, it would be necessary to obtain as much local information as possible on the flood levels which have occurred at the intended bridge sites.

39. Cattle Grids. All the areas traversed by the proposed roads are sheep farms and cattle grids (paso libre) or gates will be required at all fences. The opening and closing of gates is an irksome business and impedes movement while farmers should not be burdened with the task of closing gates after delinquent travellers. Cattle grids 10 ft wide with side gates to permit the passage of stock are recommended. A layout similar to that already in use on the road from Stanley to Moody Valley would be suitable.

Constructing the road system

40. Construction materials. Eighteen typical samples of the soils and decomposing rock on the two main islands have been examined in the Laboratory. Details are given in Tables VI and VII and Figs. V(a) and (b) and the results agree with the visual assessments made in the field.

41. Selection criteria used for surfacing materials for gravel roads vary from country to country,⁽⁴⁾⁽¹⁰⁾ reflecting differences in local climate conditions and the available sources of material. In simple terms a gravel must possess sufficient cohesion to resist displacement and abrasion, the development of corrugations and excessive dusting in the dry season and at the same time be sufficiently granular to support traffic in the wet season without becoming slippery. Additionally it should not contain very large particles which would render maintenance by motor grader and the obtaining of a smooth riding surface difficult.

42. To satisfy these requirements gravels and soils to be used in road surfacings should be well graded and the plasticity of their fines i.e. the fraction of the materials passing the B.S. No. 36 sieve should lie within certain limits. In general the maximum size of particle should not exceed 2 in. and suitable grading limits are given in Table VIII. For conditions in the Falkland Islands it is considered that the plasticity index of the fines should lie between 5 and 20 per cent with preference being given to materials in the lower part of this range.

43. In the Falkland Islands decomposing rock would provide the most useful source of surfacing material (Plate VIII). Outcrops of this type of material are widely scattered on the two main islands. Extensive occurrences were seen on the sea cliffs formed in the Lafonian Tillite, Bluff Cove Beds, and the Choiseul Sound and Brenton Loch Beds⁽¹¹⁾ and to a lesser extent in the low lying coastal areas occupied by the Fox Bay, Port Stanley and Port Philomel Beds. In the more mountainous areas occurrences were less evident but a deposit of decomposing quartzite and a creep gravel were located (Sample Nos. 2148 and 2149). In addition the cohesionless gravels and sands in beach and alluvial deposits would provide a useful source of material which could be mixed with excessively clayey decomposing rock materials or the sandier clay soils to produce an acceptable surfacing.

44. To make best use of the local materials available for use as road surfacings the particle-size distribution and plasticity index of the fines⁽⁴⁾ of representative samples from suitable located deposits should be determined to assess their compliance with the requirements set out above. Evaluation of decomposing rock materials is complicated by the fact that their gradings are mainly determined by the methods of winning used. With these materials the main considerations are that they should be weak enough to break down to a suitable grading under rolling and that the fines produced

/comply

comply with the plasticity requirements. The latter can be assessed by carrying out the aggregate impact test⁽⁴⁾ on prepared samples of $\frac{1}{2}$ in. to $\frac{3}{8}$ in. material and determining the plasticity of the fines produced. Linear shrinkage tests would also be a useful check on the plasticity index determinations especially on the more silty and organic materials where the determination of the liquid and plastic limits is difficult.

45. The winning of these natural materials is easily and quickly carried out with mechanical excavators. Material in excess of 2 in. can be removed at the pit or a grid roller used to break down the larger lumps of decomposing rock during the compaction of the surfacing layer. During construction a detailed record should be kept of the source of surfacing material used on each length of road. This would enable the more suitable materials in service to be easily located and provide useful information on the materials most suited to the environment of the Falkland Islands.

46. All the soils examined could be used as fill materials. Where possible preference should be given to the less clayey soils since they are easier to handle and compact. All fill materials should be deposited in 6 to 9 in. loose layers, watered if necessary and compacted with rollers.

47. Concrete is the most suitable material to use in bridges and culverts as it requires the minimum of maintenance. Culverts and the smaller bridges could well be constructed of precast standard elements and concrete pipes. At present crushed stone and beach sand are used as concrete aggregate in Stanley as there are no gravel deposits in the vicinity. Although the beach sand (Sample No. 2147) contains some sodium chloride reinforced concrete fence posts made using it have performed well in service. However, there is some risk involved and if prestressed concrete was used it would be a wise precaution to wash the sand prior to use.

48. Outcrops of durable stone abound in the remaining areas of the main islands and there would be no difficulty in procuring suitable aggregate anywhere. Some of the gravel deposits in rivers might form suitable and cheaper sources of coarse aggregate. The suitability and the proportioning of the various concrete mixes should be based on the grading of the various aggregate and the strength of the concrete. Routine crushing tests should be carried out to ensure that the concrete being produced is up to specification.

49. Road construction. Labour on the Falkland Islands is in extremely short supply and there is no unemployment. A large proportion of labour on the farms is at present recruited in the United Kingdom so that the labour required to construct the road system must of necessity come from outside the colony.

50. There is no local experience of large civil engineering works and contractors in the accepted sense do not exist. The Public Works Department is equipped and staffed only to provide local services in Stanley. Its limited resources in manpower, often of indifferent quality, are stretched to capacity to carry out routine tasks, minor construction projects and peat cutting.

51. The construction of a road system in these circumstances could best be undertaken by an outside contractor who would supply all the men, equipment and experience required. A road system of the size suggested might be likely to attract a contractor interested in work overseas provided the annual expenditure on the project was at least of the order of £100 to £200 thousand per annum. About 30-40 men would be needed but the exact number would depend to a great extent on the rate of construction required. Proper supervision of contract work is absolutely essential and it would be necessary that a resident engineer be appointed to undertake this. In addition he would also be responsible for the preparation of the detailed road alignment plans and other detailed contract drawings. The number of subordinates he would require would depend mainly on the contractor's construction programme.

Construction costs

52. Road construction costs vary quite a lot from country to country and there is little costing information available in the colony. However consideration of local conditions and what cost data there are available in the Falkland Islands with those elsewhere make it possible to give an estimate of the order of magnitude of the cost of constructing the road system.

53. The average cost elsewhere of roads with a cross-section as shown in Fig. 2 would be about £2000 per mile in the level country while on peat using the cross-section in Fig. 3 the cost would be about £3000 per mile.⁽²⁾ Bridges are not included in these figures. As the terrain becomes more difficult and earthworks increase costs will rise and might be increased to twice the above figures in mountainous conditions so that the average cost per mile over a road system would be about £3000 per mile.

54. The meagre costing data available in the Falkland Islands indicate that construction costs are well above the average elsewhere. This is to be expected where labour is expensive and difficult to obtain and where all manufactured items, petrol and diesel oil must be imported since freight charges make up a large proportion of the cost of many items e.g. cement costs £20 per ton. Additionally since building roads would be a once only operation a contractor's overheads would be higher than normal. In these circumstances it is likely that the average cost per mile of the road system would be somewhere in the region of £4000 to £5000 per mile, putting the total cost of constructing the road system between £1½ and 2 million. These costs would be similar to those currently obtained on road works in New Zealand.⁽¹²⁾

Road maintenance

55. Continual maintenance of the road system is essential to keep it in good condition and prevent it becoming a wasting asset. About 15-20 men using mechanical equipment would be continuously occupied carrying out routine day to day maintenance and the regravelling necessary every few years. Since there are no reserves of labour on the islands imported labour will be required either to do this road maintenance or to replace labour drawn from the farms.

56. Maintenance work is invariably carried out by the authority responsible for roads and in the Falkland Islands the road maintenance organisation should be attached to the existing Public Works Department.

Road maintenance costs

57. The average cost of properly maintaining lightly trafficked gravel roads in other countries is about £50 per mile per annum. Bearing in mind the local factors already discussed when considering construction costs, that the labour force will have to be provided with housing, and as there are two islands that some of the larger items of plant will have to be duplicated on account of their bulkiness it is likely that the figure would be higher. The annual maintenance expenditure consequent on the construction of a road system is therefore likely to be somewhere between £20,000 and £30,000. This figure includes items which at present are classed as capital items. However since road maintenance plant has a relatively short life it would be more realistic to create a plant replacement fund so that money would be available when required for the purchase of new equipment.

/Wayleaves

Wayleaves and rights to materials

58. Most of the country to be traversed by the proposed road system is freehold land. Since the construction and maintenance would be undertaken by the government it is recommended that the land on which the road is located should be acquired. A strip of land about 40 yards wide should be obtained so that if farmers decide to fence along the road there would be sufficient land available for the movement of flocks of sheep. In addition the maintenance authority should be given statutory rights to obtain road construction materials from outside the road reservation.

Conclusions and Recommendations

See Summary.

/TABLE I

TABLE I

Distribution of Population in Falkland Islands*

Stanley	1074
Remainder of East Falkland	548
West Falkland	358
Other Islands	151 (?)
Shipping	41
Total	2172

*Data supplied by Statistics Section,
Secretariat, Stanley and also reference (3)

N.B. There is some lack of consistency between Tables I, II and III but the data there are the best available and the discrepancies do not alter the overall picture.

TABLE II

Motor vehicles registered in Falkland Islands April 1963*

Vehicle type	Stanley	Elsewhere	Total
Vans and lorries	81	16	97
Private cars	122	20	142
Landrovers and jeeps	97	130	227
Tractors	15	75	90
Motor cycles	102	198	300
All vehicles	417	439	856

31 of these vehicles are known to be no longer in use.

*Data supplied by Police Department, Stanley.

/TABLE III

TABLE III

Population and number of vehicles on the main settlements
on East Falkland and West Falkland*

Location	Farm owner	Main settlements	Number of people on farm	Number of vehicles on farm
East Falkland	San Carlos Sheep Farming Co. Ltd.	San Carlos	40	12
	Pitaluga Bros.	Salvador	24	13
	Falkland Islands Co. Ltd.	Darwin and Goose Green	172	57
	do.	North Arm	68	29
	do.	Fitzroy and Green Patch	55	20
	Smith Bros.	Johnsons Harbour	16	8
	Mrs F.O. Yonge	Bluff Cove	11	5
	Estate T. Robson	Port Louis North	20	6
	The Douglas Station Co. Ltd.	Douglas Station	40	12
	Port San Carlos Co. Ltd.	Port San Carlos	56	10
	Teal Inlet Ltd.	Teal Inlet	36	19
Estate H.T. Pitaluga	Rincon Grande	10	9	
West Falkland	J.L. Waldron Ltd.	Port Howard	82	17
	Holmsted Blake and Co. Ltd.	Hill Cove	63	19
	Falkland Islands Co. Ltd.	Port Stephens	45	13
	do.	Fox Bay West	24	16
	Packe Bros and Co. Ltd.	Fox Bay East	62	24
	Luxton and Anson Ltd.	Chartres	46	21
	Bertrand and Felton Ltd.	Roy Cove	36	16

* Data supplied by Statistics Section Secretariat, Stanley, and Farm Managers.

/TABLE IV

TABLE IV
Proposed Road System

Island	Location of road	Length to be constructed	Priority	Remarks
East Falkland	Stanley-Fitzroy	16	1 (a)	5 miles existing road to be reconstructed
	Fitzroy-Darwin	38	1 (b)	
	Darwin-Douglas Station	43	1 (c)	
	Douglas Station-Teal Inlet	13	1 (d)	
	Teal Inlet-Stanley	28	1 (e)	5 miles existing road to be reconstructed
	Branch roads to:-			
	San Carlos	7	2 (a)	
	Port San Carlos	13	2 (b)	
	Johnsons Harbour via Green Patch and Fort Louis (North)	20	2 (c)	
	Rincon Grande	9	2 (d)	
Salvador	16	2 (e)		
North Arm via Goose Green	34	2 (f)		
West Falkland	Fox Bay East - Hill Cove	48	1 (a)	
	Branch roads to:-			
	Fox Bay West	3	1 (b)	
	Chartres	3	1 (c)	
	Port Stephens	48	2 (a)	
	Port Howard	34	2 (b)	
Roy Cove	11	2 (c)		

/TABLE V

TABLE V
The frequency and duration of heavy rainfall
at Stanley 1951-60*

Period (hours)	Rainfall amount (millimetres)				
	10	15	20	25	30
1	6	3	-	-	-
2	22	4	-	-	-
3	37	9	-	-	-
4	59	15	1	-	-
5	67	25	4	-	-
6	73	33	6	1	-

Note: On 31st December 1951, 10 mm rain fell in 13 minutes and 15 mm in 22 minutes. Such intensity is unusual.

* Data supplied by the Meteorological Service, Stanley.

/TABLE VI

TABLE VI

Details of Decomposing rock samples from the Falkland Islands

Sample reference number	Location	Description	Geological Formation (11)
2131*	Teal River West on track to Chartres opposite the Sand Pond Gate.	Decomposing shale intermingled with peaty material.	Port Stanley and Port Philomel Beds.
2133*	Fitzroy-Darwin track on March Ridge opposite west end of Long Pond.	Decomposing shale.	Black Rock Slates.
2134	Low cliff on south side of Port Fitzroy near Fitzroy Bridge.	Decomposing tillite - muddy sandstone with angular pebble inclusions.	Lafonian Tillite.
2136	Low cliff on north side of Bluff Cove opposite settlement.	Decomposing banded sandstone.	Bluff Cove Beds.
2137	Low cliff on north side of North Basin.	Decomposing siltstone and shale.	Bluff Cove Beds.
2140	Low cliff at head of Port Harriet.	Decomposing tillite - muddy sandstone with angular pebble inclusions.	Lafonian Tillite.
2145	Left bank of Estancia Brook near outlet.	Decomposing shale.	Port Stanley and Port Philomel Beds.
2148*	Low cliff on south side of Stanley Harbour between the outlets of Moody Brook and Felton Stream.	Decomposing quartzite.	Port Stanley Beds.

*These samples have also been included in Table VII

/TABLE VII

TABLE VII

Details of typical soil samples from the Falkland Islands

Sample Reference Number	Location	Description	Casagrande Classification
2128	Left bank of Murrell River below Murrell River Bridge	Sandy clay	CL
2129	Left bank of Murrell River at Murrell River Bridge	Alluvial sand	SU
2130	Roycove camp at fence between bailey bridge and Authur Pass	Clay	CH
2131*	Teal River West on track to Chartres opposite Sand Pond Gate	Decomposing shale intermingled with peaty material	GW
2132	Fitzroy-Darwin track opposite Swan Inlet House	Clay	CH
2133*	Fitzroy-Darwin track on March Ridge opposite the west end of Long Pond	Decomposing shale	GW-GH
2135	Low cliff on south side of Port Fitzroy near Fitzroy Bridge	Sandy clay	CI
2138	South side of Mullet Creek	Clay	CH
2139	Left bank near outlet of Mullet Creek stream	Alluvial sand	SW
2141	Raised spit at east side of the Canacho	Sand	SU
2147	Surf Bay	Beach sand	SU
2148*	Low cliff on south side of Stanley Harbour between the outlets of Moody Brook and Felton Stream	Decomposing quartzite	SU
2149	Bank adjacent to crushers at P.W.D. Quarry Moody Valley	Creep soil consisting of quartzite fragments and clay	CC

*These samples have also been included in Table VI

/TABLE VIII

TABLE VIII

Proposed limits of particle-size for gravel surfacings

B.S. sieve size	Nominal maximum size			
	1½ in.	¾ in.	⅜ in.	3/16 in.
1½ in.	100	-	-	-
¾ in.	80-100	100	-	-
⅜ in.	55- 80	80-100	100	-
3/16 in.	40- 70	55- 80	80-100	100
No. 7	30- 60	45- 70	50- 80	80-100
No. 25	25- 50	25- 50	30- 55	30- 60
No. 72	20- 40	20- 40	20- 40	20- 45
No. 200	10- 25	10- 25	10- 25	10- 25

/REFERENCES