

FALKLAND ISLANDS

REPORTS ON

CAPE PEMBROKE LIGHTHOUSE

AND

NAVIGATION AIDS IN PORT WILLIAM

AND

STANLEY HARBOUR

CIVIL SECTION,
ENGINEER-IN-CHIEF'S DEPARTMENT,
TRINITY HOUSE.

NOVEMBER, 1983

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REPORTRequirements for navigation aids in the Port William
and Stanley Harbour area.Introduction

A visit was made in October 1983 to the Falkland Islands for the purpose of undertaking a survey of Cape Pembroke Lighthouse to ascertain its present condition with a view to re-establishing it as a navigation aid consequent upon Trinity House accepting responsibility for the light from the Department of Transport on 1st January 1984. The light has been inoperative since the Argentinian invasion of the Islands.

An additional brief was to ascertain any further requirements for navigation aids.

Local Responsibility for Nav. Aids

Local responsibility for the lighthouse falls upon the Falkland Islands Administration, and in particular the Harbour Master at Stanley, Mr. L. Halliday.

Responsibility for shipping in and around Stanley Harbour is at present shared by the Harbour Master and the Queens Harbour Master, who is based on the north side of Stanley Harbour at Navy Point Camp.

This situation will apparently alter once the new airport is completed at March Ridge, as it is proposed that all the forces will move to the vicinity of the airport.

Navigation Aid Requirements

A meeting was held with the Harbour Master and the Assistant Queens Harbour Master, at that time Lieutenant Commander J. Prime, to discuss navigation aid requirements.

It was agreed that the light at Cape Pembroke should be reinstated, but at present its non operation was causing little difficulty as ships programmed arrival and departure for daylight hours.

The AQHM stated that it was a security requirement that the light should not operate without some means of remote control, such that in times of emergency the light could be exhibited or extinguished as may be required.

This is understandable, as the light otherwise could act as a locator beacon for the airfield.

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It was agreed that operational control of the light would remain the responsibility of the Harbour Master, with its exhibition being subject to the request of the QHM's officer. ?

It was agreed that the light should be of the maximum practical range to be of any use, and suggested that the provision of a Racon might be useful in view of the sudden occurrences of fog to which this area is prone.

The question of other facilities was raised, and both the HM and the AQHM stated that a more urgent requirement than the re-establishment of Cape Pembroke Lighthouse was the reintroduction of local navigation marks in Port William and Stanley Harbour.

These had been inoperative or destroyed since the invasion, and the Harbour Master did not have the facilities or the funds to re-establish these, and with the greater incidence of shipping now using Stanley Harbour it was considered that the facilities required up-grading from those previously available. ?

Survey of Nav. Aids.

A survey of Cape Pembroke Lighthouse was undertaken, and a report on its present condition is attached.

The local navigation marks were inspected to ascertain what had been provided and its present condition, and a report on this subject is attached.

Reproductions of the relevant charts are attached for information, as is a copy of the current minefield situation map of the Stanley Area, and a selection of photographs of Cape Pembroke Lighthouse.

Proposals

An outline proposal for the electrification and automation of Cape Pembroke Lighthouse is attached for consideration.

Additionally, a report is attached outlining proposals for the possible improvement of the local nav aids, for consideration as to whether assistance in this respect, both material and financial, is to be provided.

Staffing

Only the Principal Keeper, Mr. Basil Biggs is still in employment, the two assistant keepers previously employed having left service for alternative occupations.

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Mr. Biggs, who is aged 66, is still on full pay although he has not undertaken any work in connection with the lighthouse, apart from two brief visits, since the invasion. He is a Falkland Islander, and has been a keeper for twelve years.

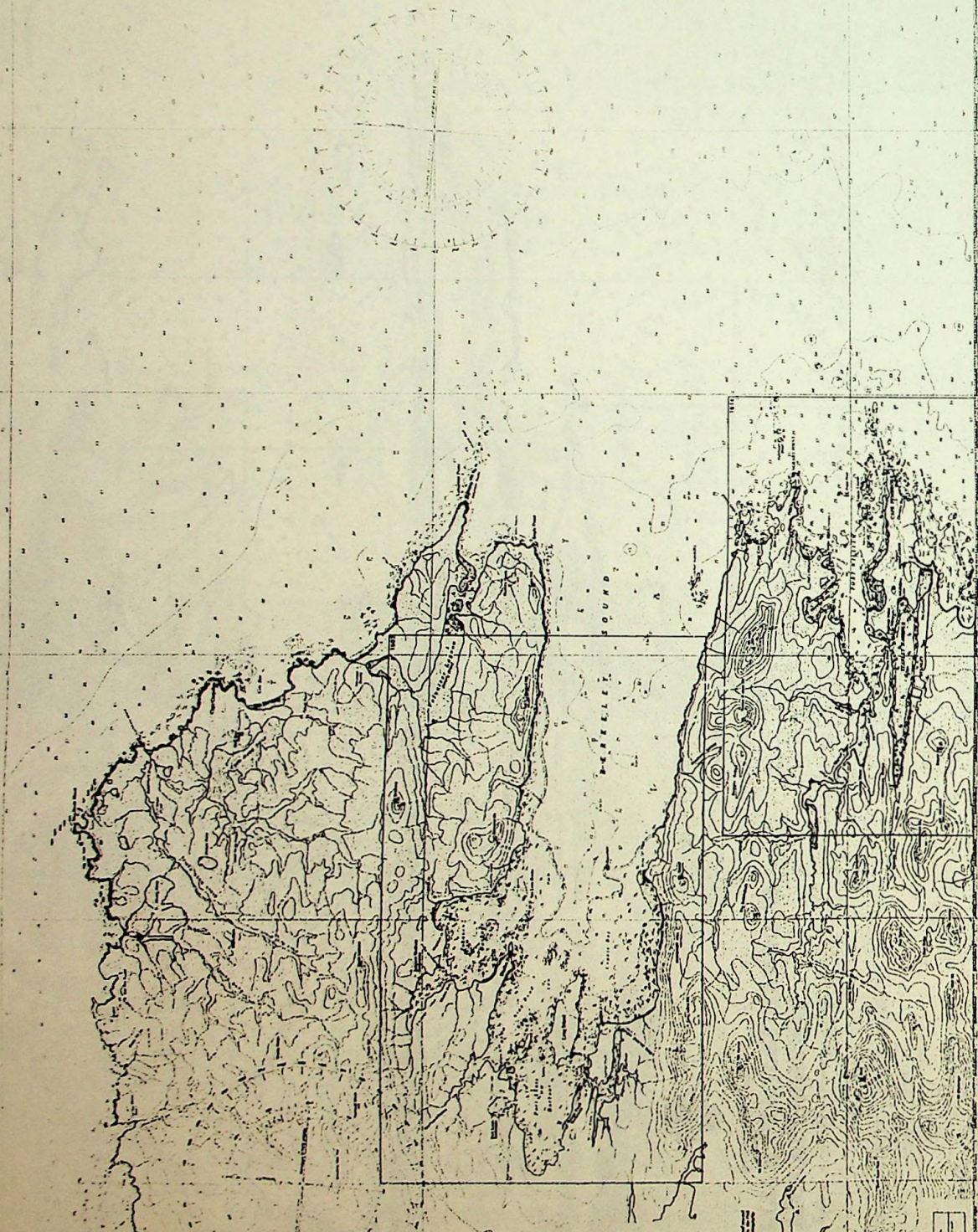
It was understood from the Harbour Master that he was considering retiring Mr. Biggs, as his continued service as a keeper was unlikely to be required, although he would be happy to act as an Attendant to the re-established light, with duties and payment to be negotiated (it should be noted that Falkland Islands salaries and wages seem to be about 50% of UK equivalents).

There is at present an acute shortage of labour in the Islands and it could prove difficult to find an alternative Attendant now or when Mr. Biggs finally leaves service.

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APCZ DEPTHS IN METRES

DEPTHS IN METRES



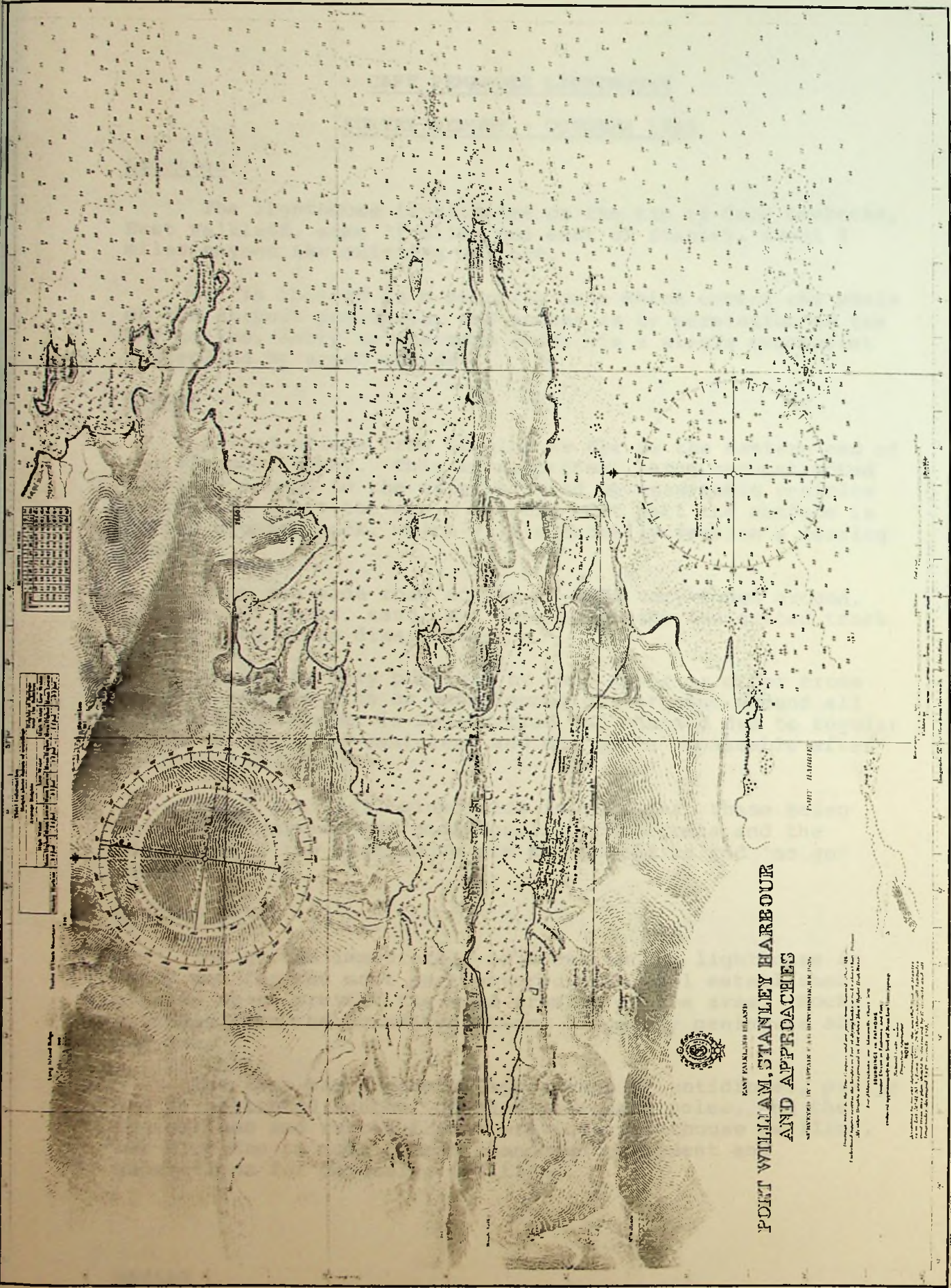
OF THE UNITED KINGDOM
 FALKLAND ISLANDS
**PORT SALVADOR
 TO
 PORT WILLIAM**
 DEPTHS IN METRES
 S.W. 1171 (Third Edition 1972)

Scale
 1:50,000
 1 cm = 0.5 NM
 1 cm = 0.91 km

Soundings
 In metres
 Shaded areas indicate depths of 100 metres or more
 Unshaded areas indicate depths of less than 100 metres

Contours
 100 metres
 200 metres
 300 metres
 400 metres
 500 metres
 600 metres
 700 metres
 800 metres
 900 metres
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 1100 metres
 1200 metres
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 9400 metres
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 9700 metres
 9800 metres
 9900 metres
 10000 metres

Depth	Color
0-10	White
11-20	Light Blue
21-30	Blue
31-40	Green
41-50	Yellow
51-60	Orange
61-70	Red
71-80	Dark Red
81-90	Black
91-100	Black
101-110	Black
111-120	Black
121-130	Black
131-140	Black
141-150	Black
151-160	Black
161-170	Black
171-180	Black
181-190	Black
191-200	Black
201-210	Black
211-220	Black
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791-800	Black
801-810	Black
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921-930	Black
931-940	Black
941-950	Black
951-960	Black
961-970	Black
971-980	Black
981-990	Black
991-1000	Black



PORT WILLIAM, STANLEY HARBOUR AND APPROACHES

SURVEYED BY A. SPENCER, R.N. 1875-1876

Published under the authority of the Admiralty, by His Majesty's Stationery Office, London, 1876.

For further information, apply to the Hydrographic Office, Admiralty, London.

Printed by the Admiralty, by His Majesty's Stationery Office, London.

Scale: 1:50,000

CAPE PEMBROKE LIGHTHOUSESURVEY REPORT - OCTOBER 1983Location

The lighthouse is situated on the tip of Cape Pembroke, East Falkland, some 7½ miles due east of Stanley, about 3 miles beyond the existing airport.

It is located in a security zone which covers the whole of the airport peninsula, and access is by permission of the RAF police, entry to the zone being via a single checkpoint controlled by armed guards.

Access

A road exists from Stanley as far as the eastern end of the airport runway. This is at present being reconstructed owing to damage to the original road by unsuitable vehicles during and after the war. For the most part the surface is rolled crushed rock, which will eventually receive a wearing course.

From the made road access is over very rough ground, composed of rocks, sand, and peat bogs, any designated track having long since disappeared.

Access is only possible by Land Rover or other cross country vehicle with an experienced driver, the ground all over the peninsular is well rutted and churned due to regular access by military vehicles, and may prove impassable after prolonged wet spells.

There are still minefields in the area, these being fenced and marked, but additionally other areas and the beaches near the lighthouse are designated as red 'no go' areas.

General Site

The ground immediately adjacent to the lighthouse is sandy and for the most part covered with well established grasses which prevent the wind erosion of the area. Rocky outcrops form the boundary between the sandy peninsula and the sea.

The area has a general appearance of untidiness, partly due to neglected fences, disused telegraph poles, and the foundations and rubble from a previous lighthouse dwelling, but also due to more recent abandoned equipment and excavations for defensive positions.

Abandoned live ammunition is still to be found in the vicinity of the lighthouse, which must of course be treated with due caution due to its deteriorated condition.

Lighthouse Dwellings

Structurally, the dwellings being of a prefabricated aluminium construction appear sound for their age.

Otherwise, they have been the subject of neglect and vandalism during the last eighteen months, with entrance doors pulled off their hinges, windows smashed, fixtures and fittings removed or broken, the walls and ceilings filthy and the floors littered with debris.

The worst of this damage, according to the Principal Keeper, occurred since the conclusion of hostilities, mostly in the last six months.

Other minor exterior damage has occurred, such as broken guttering, removal of manhole covers, etc.

Tower - Exterior

The tower is built from cast iron segments bolted together internally with a smooth exterior finish.

The tower appears structurally sound apart from one major and one minor crack visible in the base section.

This cracking appears to have been present for some considerable time, and is repairable.

Some paint blisters and minor rust patches are visible on the exterior of the tower. It is evident that the tower was fairly well maintained up until the invasion, but the paint finish is uneven due to repeated chipping and repainting, and could well benefit from total grit blasting and repainting.

The surface of the concrete base to the exterior of the tower has numerous surface cracks due to weather and frost damage, but these did not appear to penetrate the base too deeply.

Tower - Interior

(a) General

The paintwork to the interior of the tower is generally sound with some minor rust patches, and in need of cleaning down.

The timber frames to the tower windows are mostly sound, apart from one showing a small area of wet rot, but many of the window panes have been broken, and all have been heavily painted and are unopenable.

The electrical conduits, wiring, fittings and fire alarm system throughout the tower are in poor condition, some equipment having been smashed, conduits broken, and alarm bells etc. have been removed.

(b) Entrance Room

There is no door to the entrance room, access being direct from the access corridor from the dwellings.

There has been little damage to this room, although a brass catch has been removed from the weight tube door, and the weight mechanism partially dismantled.

Five full lantern glazing diamonds and eight half-diamonds are stored in timber racks in this room, and all were found intact on inspection. // gone

LMO flow and return pipes enter through the tower wall at this level, one via a Willcox Original No. 1 pump and run vertically up the tower.

The two cracks mentioned above are visible within the tower, a minor one in segment No. 5 running for about 250mm vertically of hairline width, the second, more serious crack running from the shaped collar on the exterior of the tower to the underside of one window, being about 2mm in width.

(c) Store Room

There is no equipment at this level.

A timber storage cupboard is located in this room. The doors have been smashed and part of the carcass damaged, but on the whole it is sound and repairable.

(d) Service Room

There is a door at the head of the staircase into this room, which contains the LMO pressure vessels and clock mechanism.

Some fittings have been removed from the pressure vessels and the clock mechanism, and steel parts of the vessels and clock are rusting.

(e) Lantern

A bullet hole can be observed in one of the glazing diamonds. Some damage has occurred to the prisms on the optic also caused by the same projectile. Additionally one of the upper half diamonds is cracked. Not 2.

The Hood burner appears complete, although the mantle has been removed.

The optic drive mechanism is in poor condition, the horizontal rollers have been removed, several were found at ground level in a rusty condition, and the mercury has been drained from the bath.

The wind vane/indicator was inoperative and presumed to be seized.

Engine Room/Workshop

The Engine Room is in very poor condition. Most equipment has been vandalised and is rusting, wiring has been pulled away from connections, electrical fittings smashed, and spares and tools scattered about the room.

These are two diesel generating sets, an old Petter PAZ1 with a BKB 1.2 kVA generator, which proved unreliable leading to the addition of a Lister ST1 with a Brush 3.5 kVA generator which appeared in good condition, but could not be started as the fuel feed lines had been cut, and the oil tanks had been drained. gone

Fuel Storage Tanks

The six 500 gallon tanks located around the lighthouse appeared to be in good condition, with some minor rusting. All the tanks had been drained, but could be re-used if required.

Remedial Works1. Tower

Although vandalism, lack of maintenance, and the effects of weather have taken their toll, the tower itself remains in a reasonable condition.

The equipment within the tower is of little use, but as for any electrification scheme this would have to be removed, this is of little consequence.

The tower requires cleaning and painting internally and externally, and the crack in the base repaired.

It would be preferable if, externally, the existing paintwork were removed back to bright metal to eradicate future rusting problems.

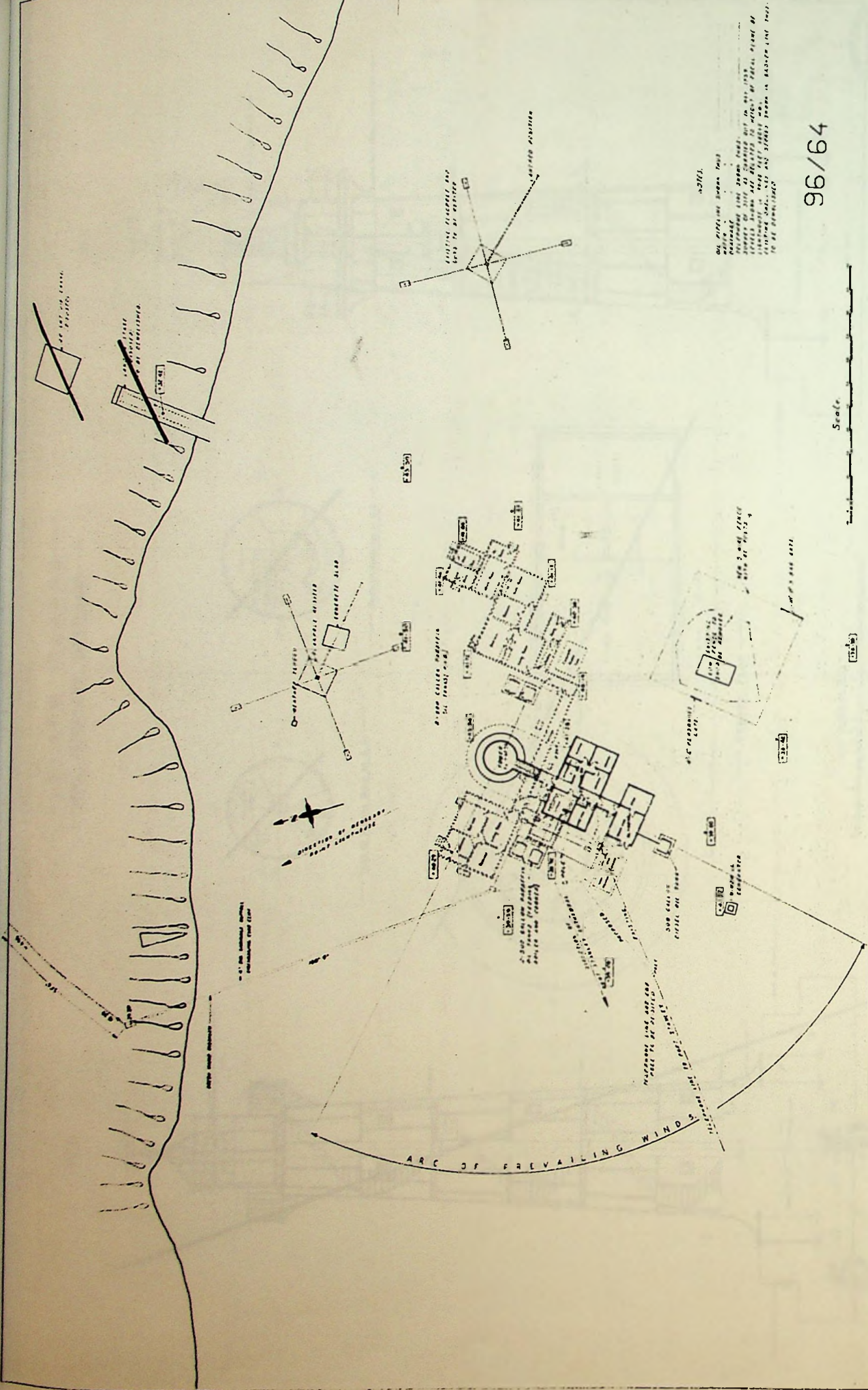
The cracks in the concrete base to the exterior of the tower should be sealed using liquid epoxy resin grout or similar material to prevent further cracking and spalling of the concrete.

2. Dwellings & Engine Room

To bring the buildings back into a habitable condition would require much work, due to the effects of vandalism and weather, which is not thought justified in view of the proposed automation of the station.

The engine room is not conveniently located nor constructed for retention without the remainder of the dwellings.

It is therefore recommended that these buildings be demolished, and alternative provision made for generators and batteries required for electrification of the light.



TRINITY HOUSE
ENGINEERS DEPT.

FALKLAND ISLANDS: CAPE PEMBROKE LIGHTHOUSE.
GENERAL SITE PLAN & LAYOUT OF PROPOSED DWELLINGS.

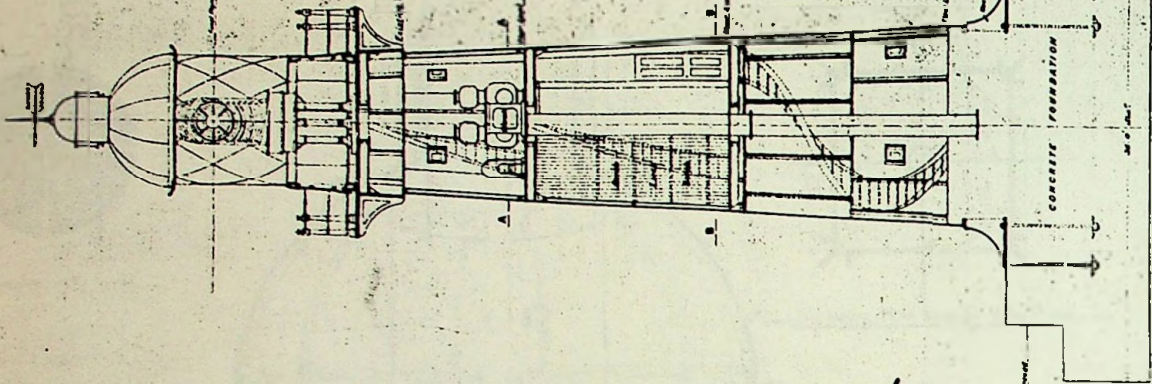
SCALE
1" = 10'

DRWG. No.
612/3

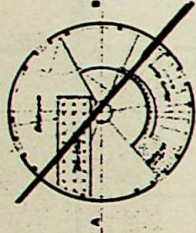
NOTES:
1. ALL DIMENSIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.
2. THE PROPOSED DWELLINGS ARE TO BE CONSTRUCTED OF BRICK AND ROOFED WITH CORRUGATED IRON SHEETING.
3. THE LANTERN ROOM OF THE LIGHTHOUSE IS TO BE CONSTRUCTED OF BRICK AND ROOFED WITH CORRUGATED IRON SHEETING.
4. THE WATER TOWER IS TO BE CONSTRUCTED OF BRICK AND ROOFED WITH CORRUGATED IRON SHEETING.
5. THE STORES ARE TO BE CONSTRUCTED OF BRICK AND ROOFED WITH CORRUGATED IRON SHEETING.

FALKLAND ISLANDS
CAPE PEMROKE LIGHTHOUSE

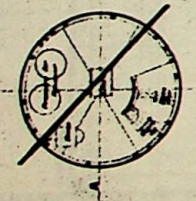
№ 2



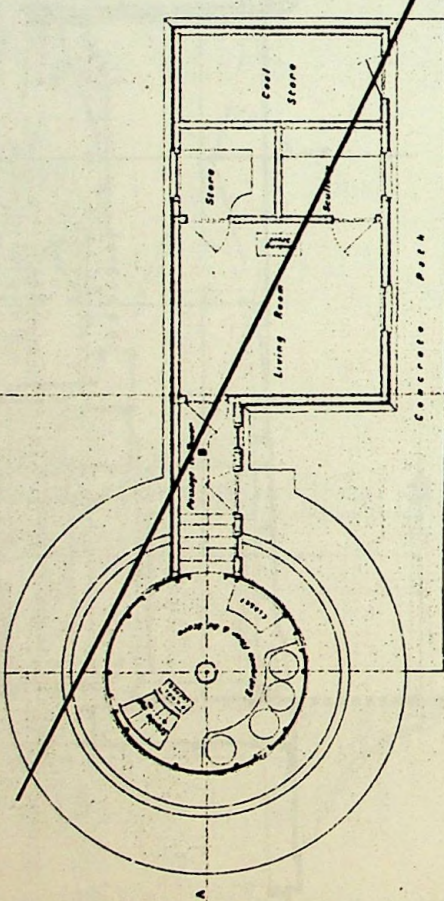
VERTICAL SECTION OF TOWER ON LINE A. B.



PLAN OF SERVICE ROOM AT A.A.



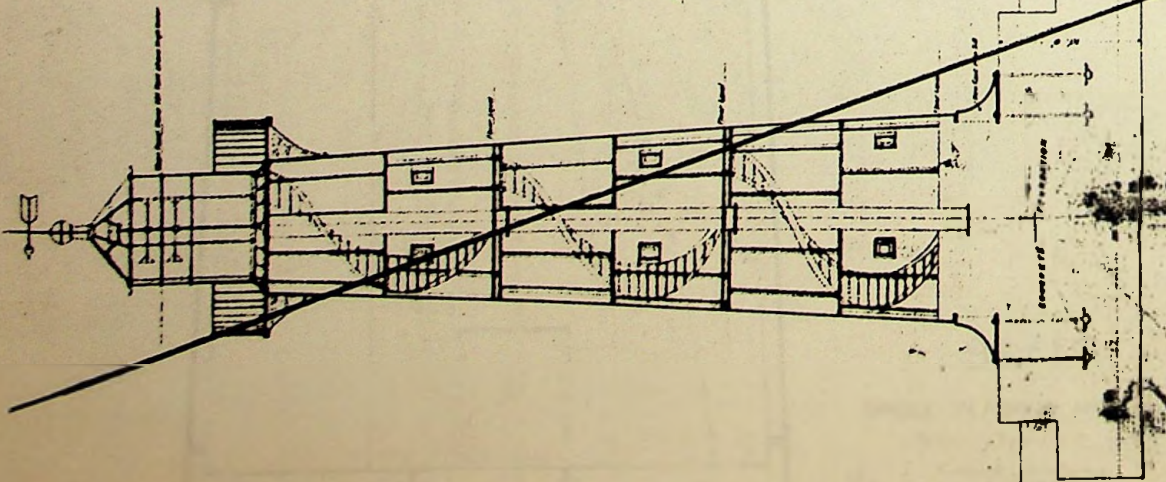
PLAN OF SERVICE ROOM AT B.B.



GROUND PLAN

SCALE OF FEET

№ 1



VERTICAL SECTION OF TOWER



Handwritten signature or initials.

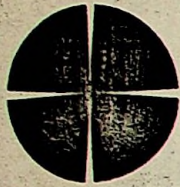
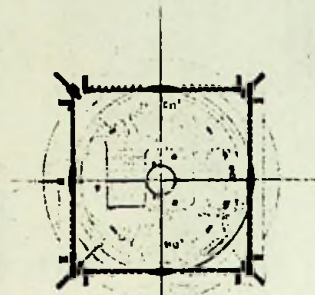
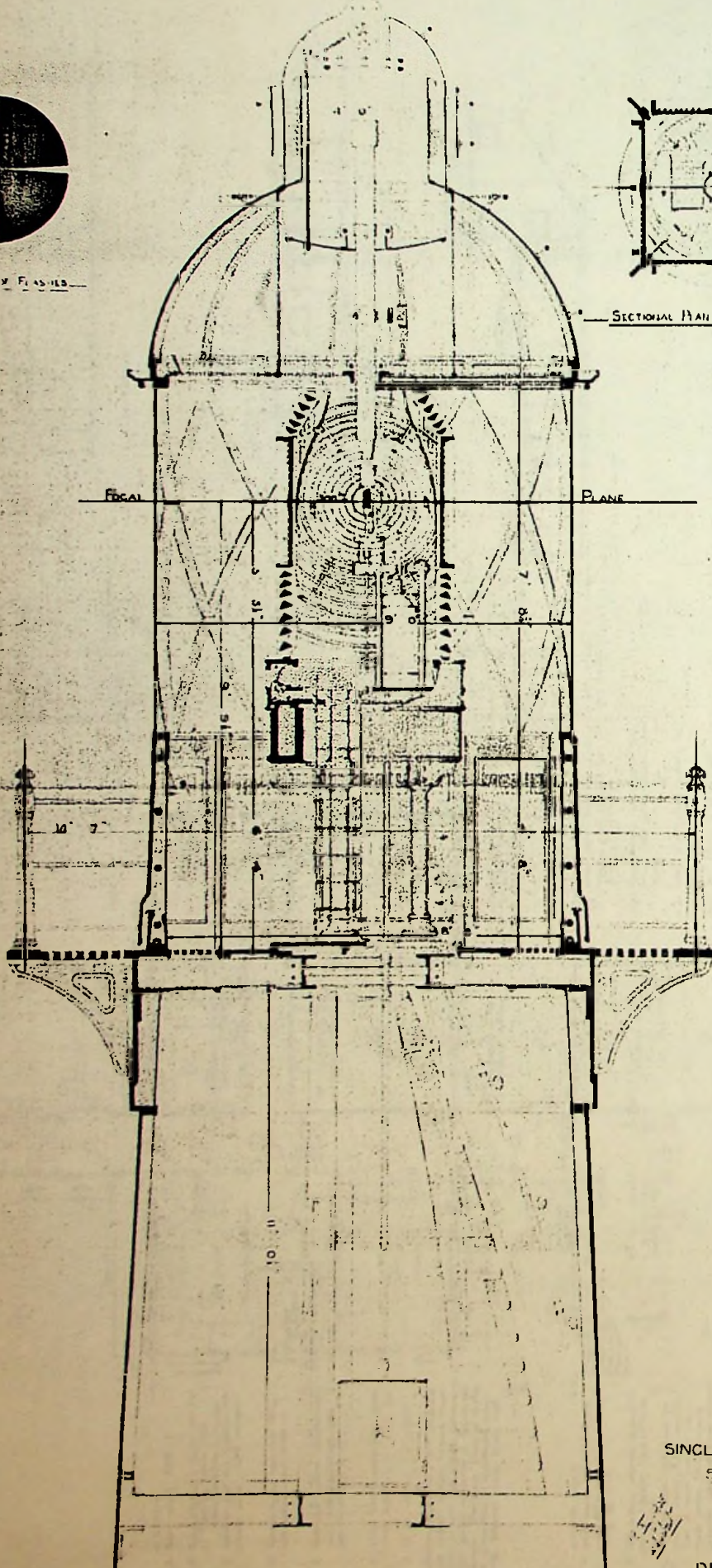


DIAGRAM OF FLASHES



SECTIONAL PLAN THROUGH FOCAL PLANE



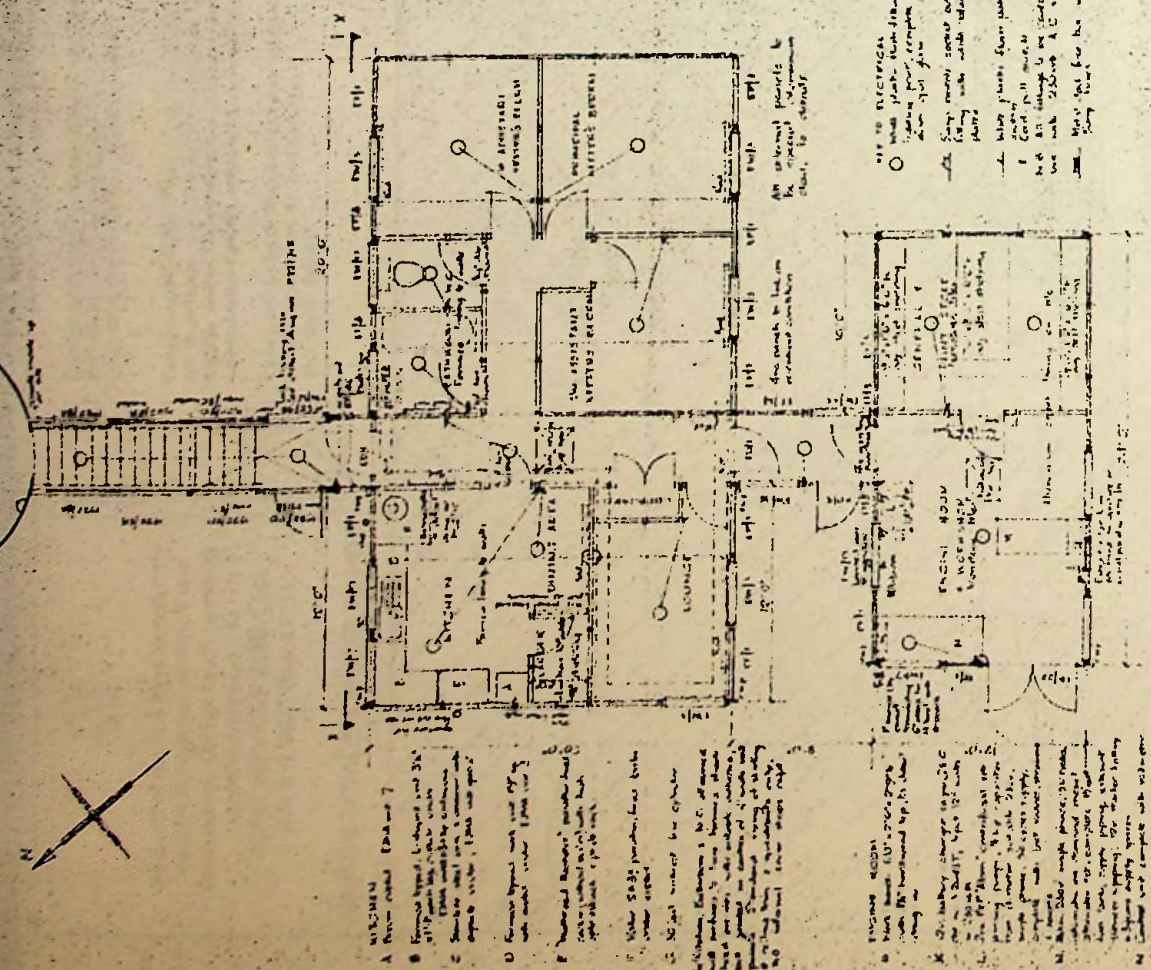
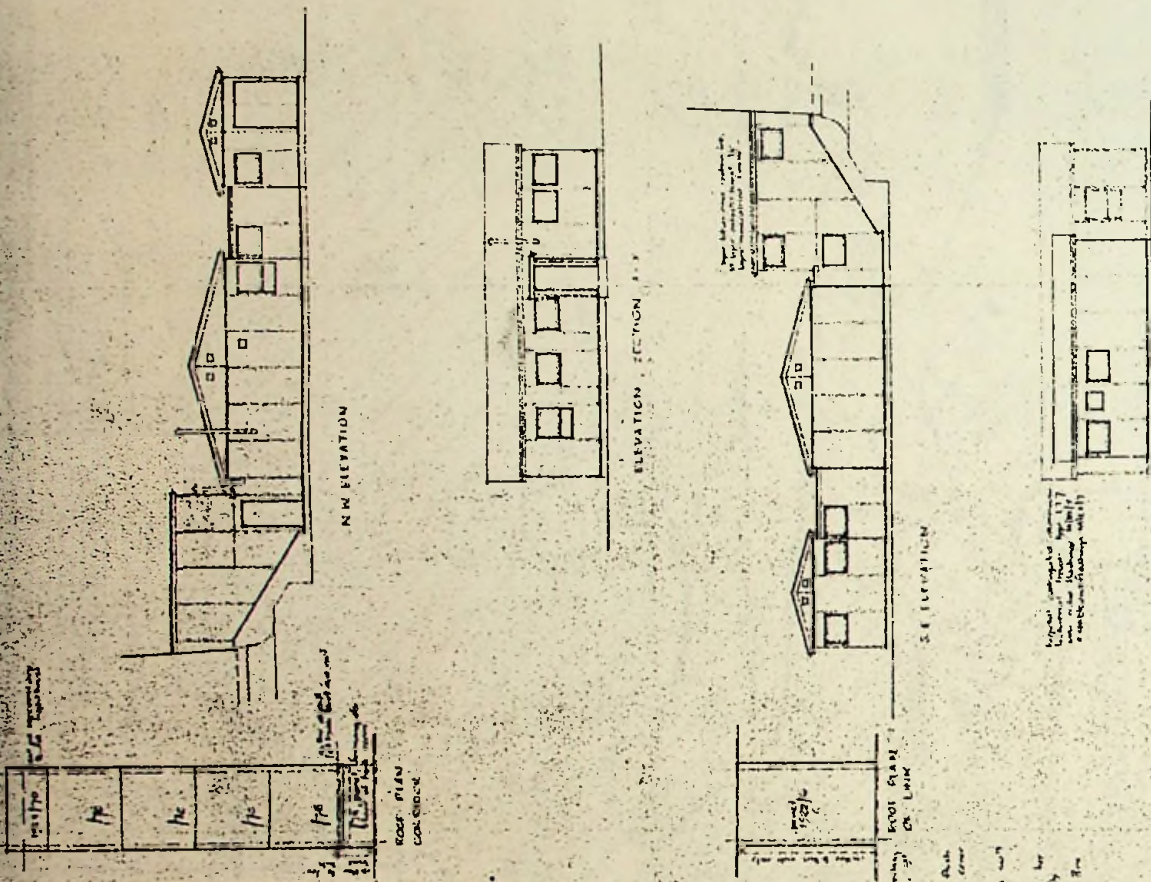
96/11

SINGLE FLASHING APPARATUS

SCALE 1/4" = 1' 0"

ENGINEERS & ARCHITECTS
LIMITED
15, ABchurch Lane, LONDON
E.C. 4

DRAWING N° 4522



NOTE TO ELECTRICAL ENGINEER
 1. All electrical work to be done in accordance with the I.E.E. Regulations.
 2. All wiring to be done in accordance with the I.E.E. Regulations.
 3. All wiring to be done in accordance with the I.E.E. Regulations.
 4. All wiring to be done in accordance with the I.E.E. Regulations.

MIDDLESEX PREFABRICATED BUILDINGS LTD.	
GREEN LANE, HOUNSLOW, MIDDLESEX, ENGLAND	
DATE	1966
PROJECT	RESIDENTIAL
NO.	100
BY	J. H. B. JONES
CHECKED BY	J. H. B. JONES
SCALE	1/4" = 1'-0"
COPYRIGHT	RESERVED

19/96

SCALE 1/4" = 1'-0"

STANLEY MINEFIELD AND AREA CLEARANCE SITUATION MAP AS AT 28 AUG 83

This map supercodes previously produced Stanley Minesfold situation map dated 7 JUN 83



All parts of the Falkland Islands may contain dangerous materials and ammunition. Do not touch anything suspicious - report it to
JOINT SERVICES EOD CELL
 (Mil Ext 687, Civil 411)

HELP THE ROYAL ENGINEERS TO HELP YOU!

Category 1 - GREEN. These areas have been exhaustively checked by the Royal Engineers and are believed to be safe.

Category 2 - BLUE. There is no evidence at all that these areas contain minefields or booby traps. However they may contain unexploded bombs, ammunition, missiles etc.

Category 3 - RED. These areas are known to contain mines or booby traps.
DO NOT ENTER.



NOTE: Estancia Road now cleared 100M wide. Keep between pickets

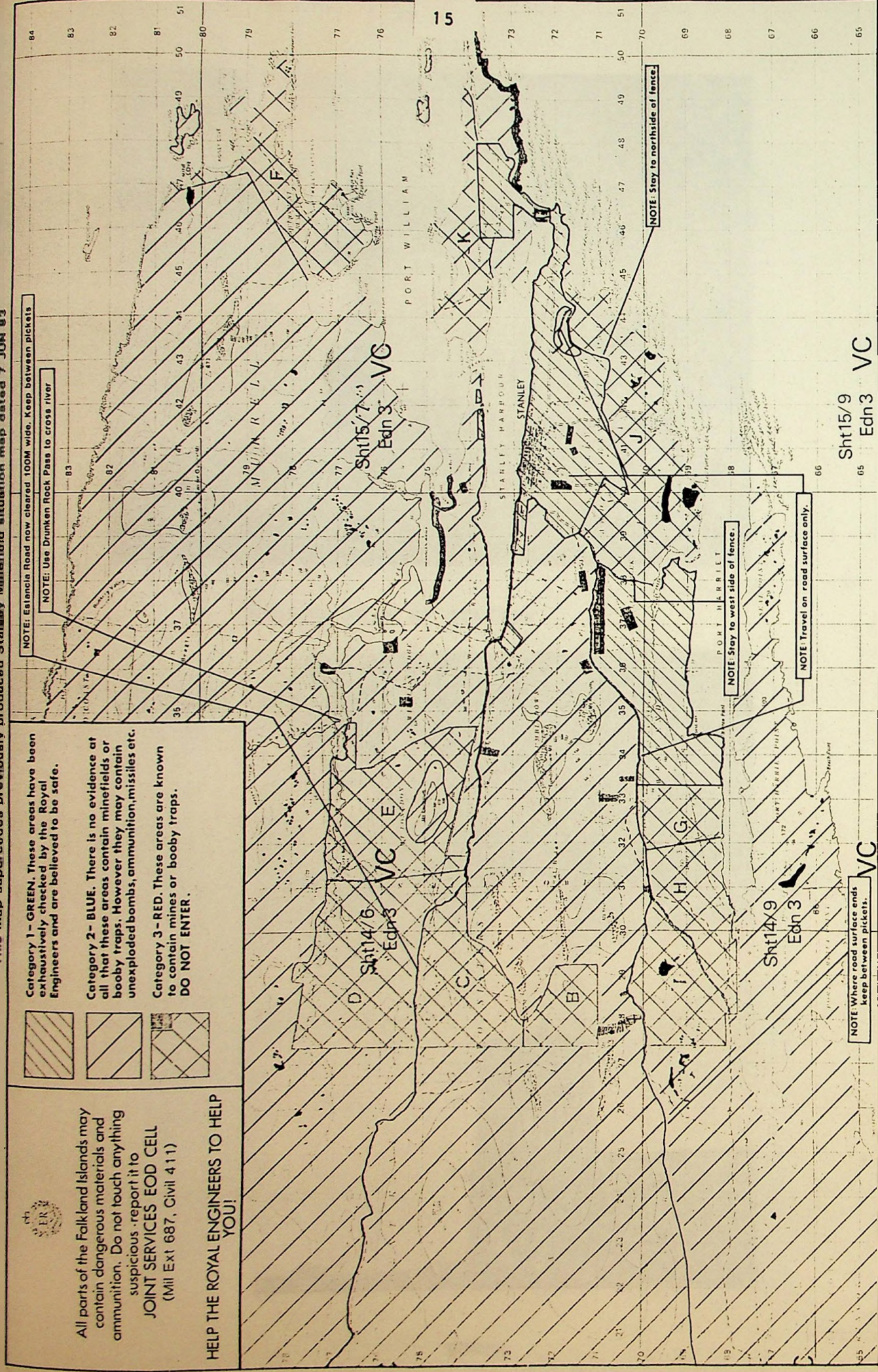
NOTE: Use Drunken Rock Pass to cross river

NOTE: Stay to northside of fence.

NOTE: Stay to west side of fence.

NOTE: Travel on road surface only.

NOTE: Where road surface ends keep between pickets.





RISHI/CAP/172-01

GENERAL VIEW OF STATION



TOWER

- 02



LANTERN AND GALLERY

-03



DWELLINGS

-04



CAPE PEMBROKE FROM LIGHTHOUSE GALLERY

-05



GENERAL VIEW OF TERRAIN

-06



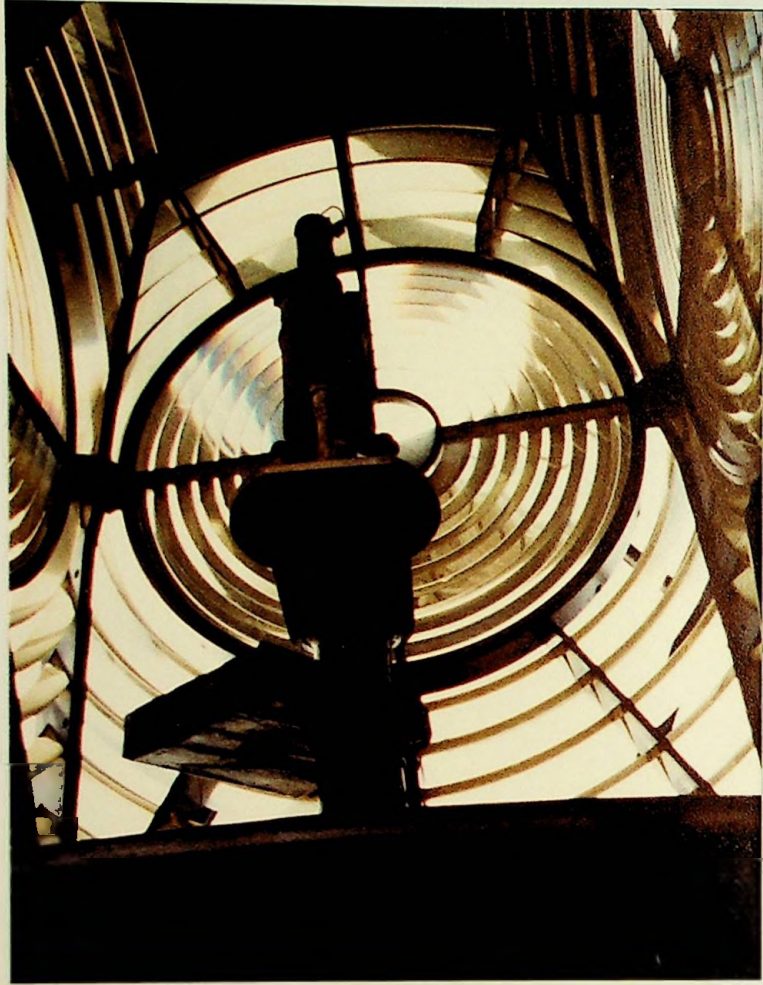
REMAINS OF PREVIOUS DWELLINGS

- 07



CRACK IN TOWER BASE

- 08



INTERIOR OF OPTIC

-09



BROKEN PRISMS IN OPTIC

-10



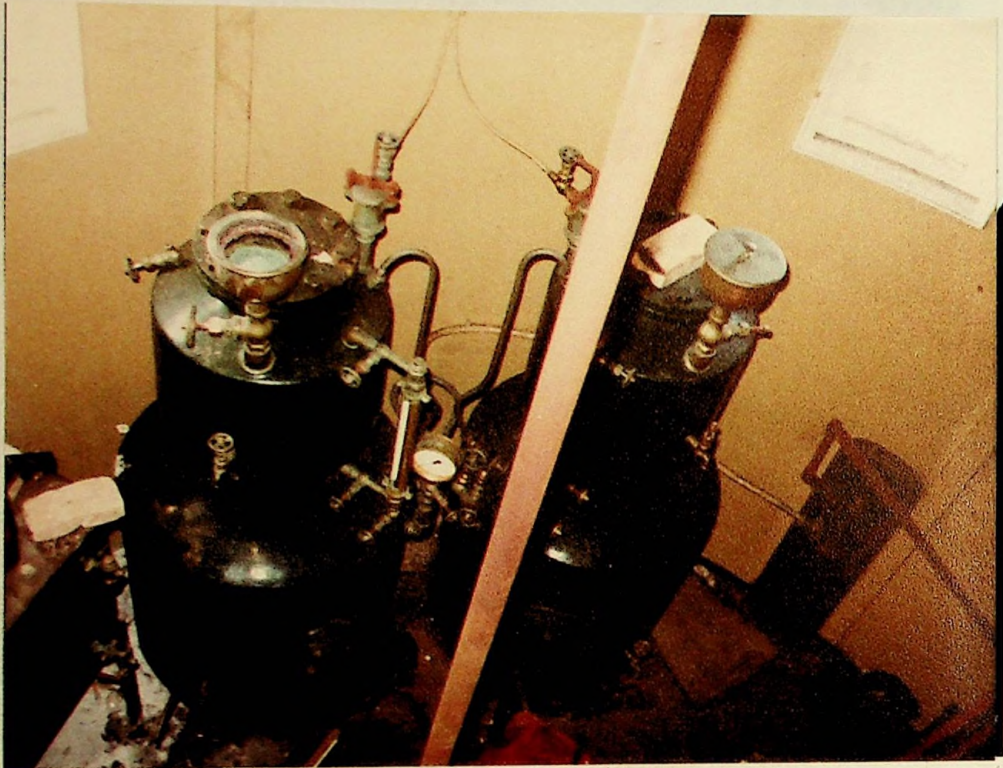
BULLET HOLE IN LANTERN GLAZING

-11



SMASHED STORE CUPBOARD

-12



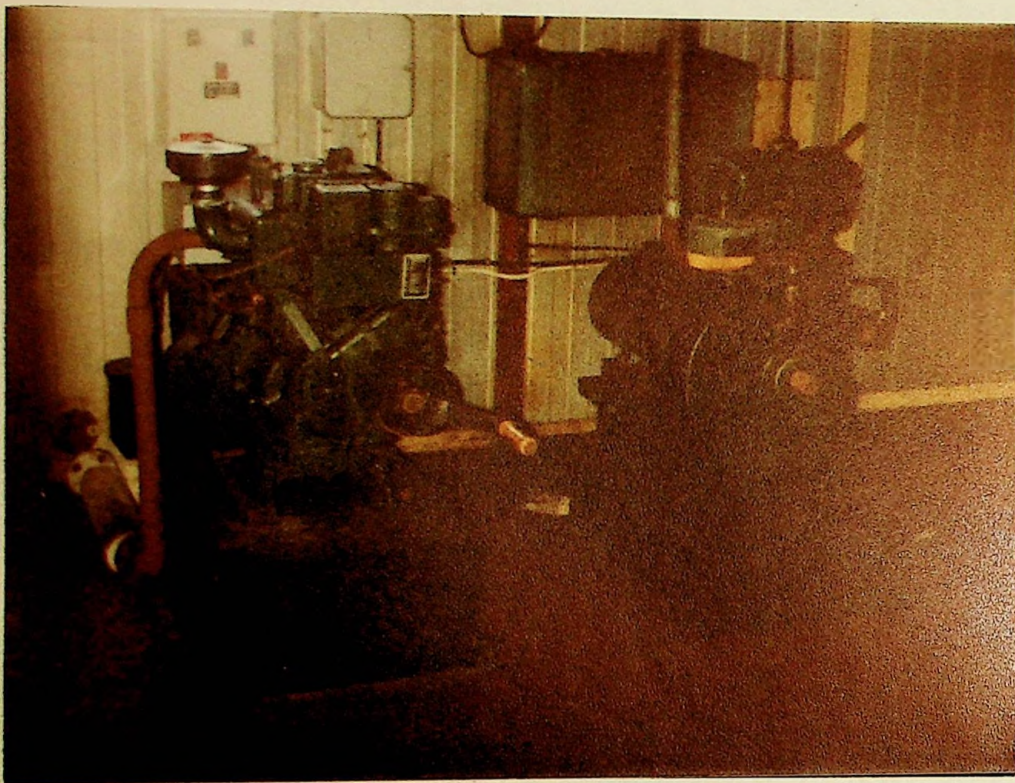
PRESSURE VESSELS IN SERVICE ROOM

-13



KITCHEN IN DWELLINGS

-14



-15

GENERATOR SETS



-16

ENGINE ROOM

OUTLINE PROPOSALS
FOR THE ELECTRIFICATION AND AUTOMATION
OF CAPE PEMBROKE LIGHTHOUSE

Introduction

A visit was made to Cape Pembroke Lighthouse in October, 1983 to ascertain the condition of the lighthouse with a view to re-establishing the light, which had been non-operational for some eighteen months, as an electrified and automatically operating station, relying only on occasional visits by a locally employed attendant.

The findings of the visit are report on elsewhere. Proposals for the future of the station are given below.

Navigation Light

Initial proposals were put forward by the Lighthouse Engineer of the Department of Transport for a battery powered light retaining the existing allocated character of flashing white, once every ten seconds, but increasing the intensity from 105,000 candela to 133,000 candela, giving a nominal range of 20 miles.

This proposal was approved by the Corporate Board on 18th October, and the decision does concur with the locally established requirement for a re-established light of maximum practical range (the geographical range of the light is 16 miles).

This figure is achieved using a modified Stone-Chance Power Beam Beacon within the existing lantern, fitted with a 250 watt 24 volt quartz halogen lamp derated to 210 watts, 22 volts for extended lamp life (700 hours typical).

A three position lamp changer and duplicate optic rotation motor would be fitted for failure standby.

A photo-electric switch would be fitted to provide automatic operation during the hours of darkness only to conserve power.

Light Operation Control

As discussed in a previous report, for the time being security requirements prevent the operation of Cape Pembroke as a normal lighthouse, with the light automatically exhibited during the hours of darkness. It is a requirement that the light may be exhibited as and when requested and authorised by the Queen's Harbour Master.

will be done

Owing to the difficulties of access to the light from Stanley, manual operation cannot be considered.

A telephone line did exist in the past to the lighthouse, but this was abandoned some years ago due to unreliability of the overhead line and high maintenance costs.

It is therefore necessary to consider a UHF radio link between Stanley and the lighthouse, with a base station located in the Secretariat, the Government Office building where the Harbour Master is based.

Most of Stanley is visible from the Lighthouse Gallery, and it is believed that a line of sight link is feasible from an aerial mounted above lantern gallery level to another mounted at a level with the roof of the Secretariat Building.

This radio link could just be used for on/off control, or at additional cost for monitoring basic operational functions.

Power Generation

The light and radio equipment would operate from a battery bank.

As the light may not be exhibited at the normal regular hours, but on demand, it will not be practical to float charge the batteries. To meet these prevailing conditions a battery could be provided with adequate capacity to ensure continuous operation of the navigation aids for a period of 6 days should both generator sets fail. Using this arrangement each generator would operate alternately once every 3 days to charge the batteries.

The generator would also provide for lighting as required within the station when the Attendant or other personnel were present, using a manual start facility.

It is thought that two generators are necessary to cater for failure of one, with each operating in charge made every six days.

3.5kW diesel generators operating at 240V 50Hz would be provided, each with its own starter battery, starter battery charger and main battery charger. The existing fuel tanks are suitable for re-use.

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Batteries

To cater for the above requirements a nickel-cadmium battery of about 1200 ampere-hours capacity will be required.

Additional Navigation Aids

In discussion with the Harbour Master and the Assistant Queens Harbour Master the subject of additional navigation aids was raised. It was generally agreed that the provision of a Racon would enhance the usefulness of the lighthouse, considering the fogs which can prevail in this area at certain times of year.

There is virtually no small boat activity in this area, there being no local fishing industry, shipping in the main being MOD chartered cargo and passenger vessels supplying the garrison. There is additionally a small coaster operated by the Falkland Islands Company, an Antarctic Survey Ship using Stanley as base, a large Polish fishing fleet based on a factory ship moored in Berkeley Sound, and at present time a Japanese ship undertaking a survey on behalf of the UK fishing industry. Additionally, occasional Spanish fishing vessels seek refuge in Berkeley Sound.

It estimated therefore that probably some 99% of the vessels passing in the vicinity of Cape Pembroke are radar equipped, and could benefit from the installation of a Racon.

Modifications to existing station

(a) New light

The existing optic, PVB, clock and associated drive assembly would have to be removed. The new beacon would be mounted within the existing lantern using part of the existing optic support stand, with additional metalwork to bring the beacon to the correct focal plane.

(b) Dwellings and Engine Room

For automation of the station the dwellings are no longer required, and considering the costs of refurbishment from their present condition, it is considered that demolition is advisable rather than continued maintenance.

Similarly, the engine room/workshop is of little use, as refurbishment and installation of new generator sets etc. in the present building would prove expensive.

(c) Battery Room

The tower base forms an ideal location for the battery required for the new light. Little work is needed to bring the area up to standard, and required ventilation can be easily provided.

(d) Power Units

Bearing in mind the high cost of on site installation work, it is considered most economic to have the generators and battery chargers built into a containerised housing module in the UK giving a ready built and tested engine room which can be sited on the concrete foundations to the dwellings adjacent to the tower.

This concept would of course require the use of an Army helicopter to transport the module from Stanley to the lighthouse site. Alternatively the module could be of prefabricated disassembled form which then gives the option of transport by vehicle or helicopter, requiring the minimum of on-site time for assembly of an operational power module.

Tower

Besides the general removal of derelict equipment the interior of the tower requires cleaning and painting.

An AC lighting system should be provided on each floor of the tower, with power sockets as appropriate.

Ventilation will be provided in the entrance room to vent battery fumes.

Some additional minor repairs are necessary to replace missing hinges and murette ventilator knobs, mend the timber storage cupboard, and replace the two broken panels of lantern glazing.

The exterior of the tower requires cleaning down, chipping, and repainting.

The surface of the tower is rough due to repeated chipping and painting over the years, and could ideally be grit blasted prior to repainting to provide a sound rust free finish. This operation would prove costly in transporting the necessary equipment to the Islands, it must therefore be accepted that the paint finish will always appear rough on close visual inspection.

Repair plates will have to be fitted to the cracks in the base section of the tower.

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The cracks to the concrete base to the exterior of the tower will have to be sealed with epoxy resin based repair compound to prevent further deterioration.

Programme

The major problem with undertaking the electrification and automation of this station is obviously the distance at which operations must be carried out.

For this reason it is necessary for as much of the new equipment as possible to be pre-fabricated before despatch to site, with a view to reducing on site installation tiems.

If orders for equipment are initiated in the near future, it is anticipated that equipment will not be obtained and ready for shipment as a tested system before June 1984.

Shipment of equipment to the Falkland Islands will have to be arranged through the MOD, on one of their chartered supply ships, for whom Hogg Robinson act as shipping agent.

The shipping service is of course irregular, and it takes some four to six weeks for the journey.

Given these limitations, and the fact that it is not practical to undertake any work at site during the winter months May to August, the installation work must be programmed to commence from September/October (Spring) 1984.

Estimate of Costs

An estimate of the equipment costs anticipated is outline below.

	£
Navigation Light	3,500
Battery and Chargers	10,000
Diesel Generators	6,000
Starter batteries and Chargers	500
Fuel System	2,000
Cabling	1,500
Housing for generators	8,000
Radio Link	8,000
Control equipment	3,000
	42,500

An additional equipment cost, if provided for, would be that of a Racon, at £7,000.

Additional cost to be included would be the plant and labour costs of the Public Works Department in demolishing the existing dwellings and clearing out and repairing and painting the tower, and additionally Trinity House labour, subsistence and travel costs in undertaking the installation work.

These are both at present undefinable, dependant on further decision and detail design, the first due to the disparity between local and UK costs, the second depending on the permitted local involvement of Trinity House personnel during the project.

In the circumstances, therefore, it would be prudent to include a sum of £10,000 to cover the contingencies, and the total estimate becomes £60,000, with provision for a racon, or £53,000 excluding the racon.

The light, which is now superseded, had a character of being fixed (2) every 7 seconds, with a range of 100 miles. Good observation of the light was not possible as it is located in a windmill.

A new light was erected in 1881, using a wind-driven dynamo machine supplied by Ralph Wood Harwood & Co. of Exeter, Devon. It is supported on a rectangular cast-iron painted white and powered from storage batteries which are charged from a 12 volt generator type wind generator.

The light was out of operation due to failure of the machine and support bearing for some time prior to the machine awaiting spare parts, and the conclusion had been reached that this particular wind generator was not really suitable for the wind speeds and climatic environment experienced at this location.

Access to the light was possible by way of a narrow gauge road or track which is the route from Stanley, and although this does not enter local streets in East Dover, it does however take from Stanley over a drive of about 20 miles over rough ground.

A signal is shown at Dover Point on Chart No. 1814, but is omitted from local charts, and no longer used.

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Survey Report on Local Navigation Marks
in Port William and Stanley Harbour

Introduction

Following a meeting with the Harbour Master and Assistant Queens Harbour Master at which it was stated that reinstatement and improvement of the local navigation marks in Port William and Stanley Harbour was considered of greater priority for the safety of shipping than the re-establishment of Cape Pembroke Lighthouse, it was decided to inspect the marks to ascertain their present condition and the possibility of improvement.

The location of the marks described below can be seen on the extract from Chart No. 1614 attached.

Mengeary Point

Mengeary Point forms the opposite arm to the entrance to Port William from Cape Pembroke.

The light, which is now inoperative, had a character of Group Flash (2) every 7 seconds, with a range of ten miles. Close observation of the light was not possible as it is located in a minefield.

A new light was erected in 1981, using a wind-driven programmable Harbour Beacon supplied by Ralph Howe Marketing Ltd. of Poole, Dorset, being supported on a rectangular cabinet painted white and powered from storage batteries trickle charged from a 12 volt impeller type wind generator.

The light was out of operation due to failure of the impeller and support bearing for some time prior to the invasion awaiting spare parts, and the conclusion had been reached that this particular wind generator was not really suitable for the wind speeds and climatic environment experienced at this location.

Access to the light was possible by boat during calm seas, no road or track exists to the Point from Stanley, and although this does not deter local drivers in Land Rovers, to reach Mengeary Point from Stanley means a drive of about 20 miles over rough ground.

Doctor Point

A beacon is shown at Doctor Point on Chart No. 1614, but is omitted from later charts, and no longer exists.

Yorke Point

There is a white painted stone beacon on the small island called Yorke Point, which is at present located in a minefield. In normal circumstances access was possible at low tide.

Blanco Bay

The mark at Blanco Bay is a white painted stone beacon surmounted by a 200mm dia. electric lantern. This is inoperative, but used to be exhibited with a character of 1 flash every 2 seconds, and a range of about ten miles.

The light was powered by a rechargeable battery pack which was removed by boat to Stanley for charging as and when required.

Navy Point

This light, together with Engineer Point, mark the entrance from Port William into Stanley Harbour. Both are white painted stone beacons, and Navy point has a 200mm diameter electric lantern on top of the beacon, which was powered from a rechargeable battery pack.

The character of the light was Quick Flashing Red, with a nominal range of 3 miles.

The lantern still exists, but is in poor condition, and the source of manufacture could not be identified.

Access to the light is via a track from the camber at the naval base close by.

Engineer Point

This light was similar to that at Navy Point, but with a character of one flash every 5 seconds, and a range of 7 miles.

The lantern appears to have been removed from the beacon, although the battery pack was still in place. Close inspection was not possible as this area is designated a minefield. Access is by small boat to a beach adjacent to the point.

Leading Marks

Leading marks are provided to mark the centre of the channel through the narrows, one pair to the south, and a single mark to the north.

These take the form of wooden triangles mounted on poles, with a side of about 800mm, and a height of just over 2 metres.

These marks are temporary in nature, the original marks having been destroyed, and although painted in dayglo orange are not at all conspicuous when viewed from Port William.

These leading marks have always been daymarks only, carrying no form of light.

Improvement of Navigation Marks

As mentioned previously, the local authorities consider the improvement of the navigation marks in Port William and the entrance to Stanley Harbour to be of prime importance in view of the increased volume of shipping to the islands, and with this in mind discussions were held to ascertain requirements.

Their main problem is that neither facilities nor funds are available for the provision of improved marks, and therefore the request for assistance was put forward for Trinity House to consider.

Outlined below are the proposals for improvement to the marks for consideration.

Mengeary Point

Although it would be useful for this headland to be lit as previously, to mark the limits of the entrance to Port William in conjunction with Cape Pembroke, its location in a minefield makes it impossible to carry out any work to the light, and the impression was gained that this area is liable to remain uncleared for some time to come.

Yorke Point

No change is necessary to the unlit beacon at this location.

Blanco Bay

In place of the flashing light previously installed at Blanco Bay, a more suitable light would be a sectored red/white/red light with a white sector of about 6° (between 085° and 091° to enable safe navigation through Port William at night, the angles chosen to give 1 cable clearance from the obstructions provided by the Tussoc Islands to the south and the kelp bed off Arrow Point to the north. Such a light would require at least an eight mile range, which does pose power supply problems which would be further investigated if approved.

This light would lead shipping up to the turning point at the Narrows for entrance to Stanley Harbour.

Navy Point and Engineer Point

These lights, could be reinstated as previously by providing new lanterns, possibly using disposable battery packs instead of rechargeable batteries, as these tend to provide a longer unattended life in low temperatures. This does lead to a re-supply problem, which would also apply to a greater extent to the alternative power source of acetylene gas.

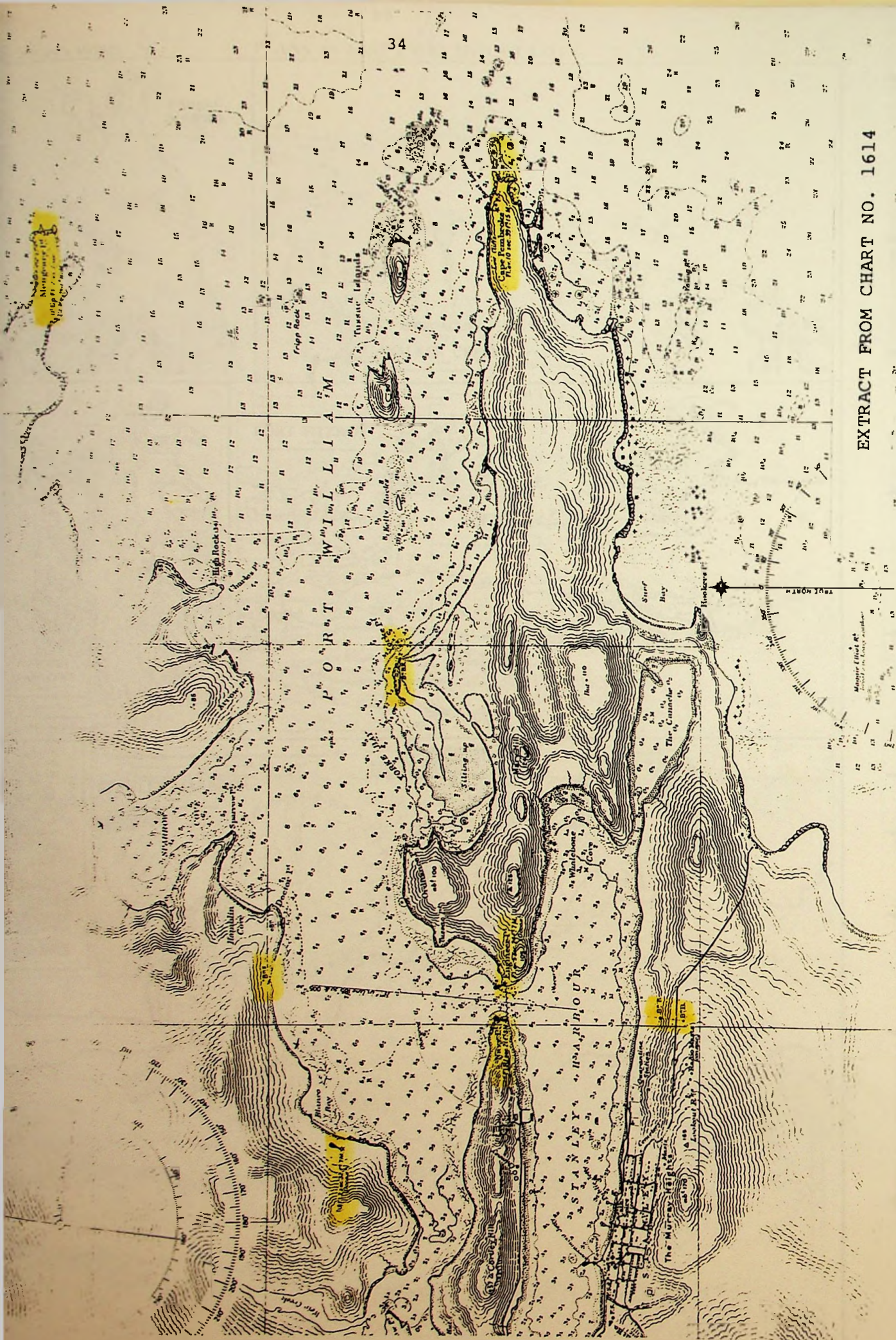
Leading Marks

As previously stated, the temporary leading marks at present provided are far too small for the purpose, and with a view to night navigation should also be lit, requiring small lights with a range in the order of 3 to 4 miles.

Conclusion

The above information is submitted for consideration only, and no detailed investigation has been undertaken on availability or suitability of equipment.

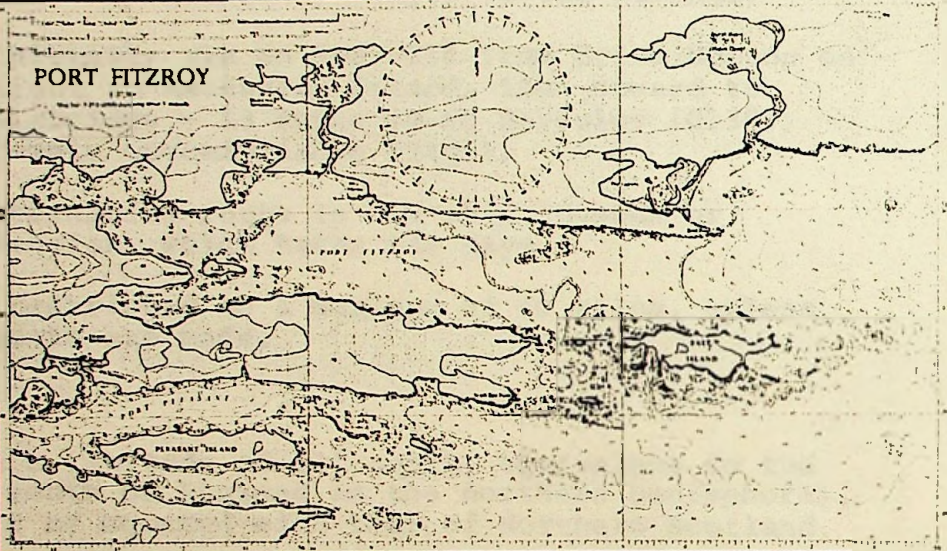
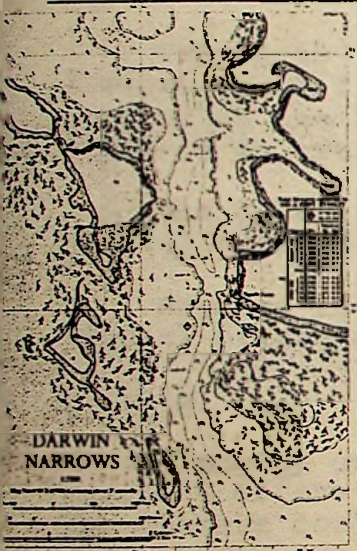
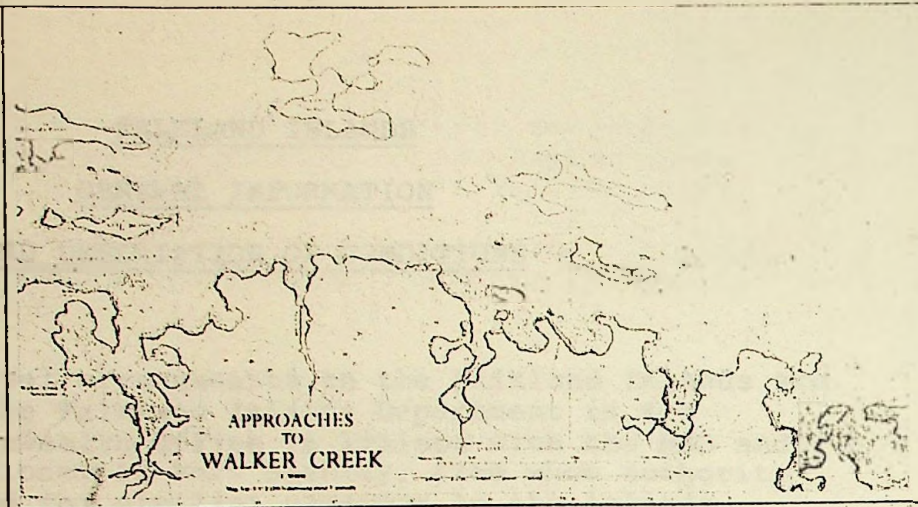
If it was considered appropriate that Trinity House should assist in this matter, it would only be necessary to obtain, manufacture and arrange transport for the component parts, the local installation work could be undertaken by the Falkland Islands Public Work Department, presumably at their own expense.



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EXTRACT FROM CHART NO. 1614

PLANS IN EAST FAULKLAND ISLAND



Depth	10	20	30	40	50	60	70	80	90	100
Mean	10	20	30	40	50	60	70	80	90	100
Low	10	20	30	40	50	60	70	80	90	100
High	10	20	30	40	50	60	70	80	90	100

FALKLAND ISLANDS

GENERAL INFORMATION

AND DESCRIPTION OF CONDITIONS

Travel

Civilian travel arrangements to the Falkland Islands are co-ordinated by the Falkland Islands Department in the Foreign and Commonwealth Office in liaison with the MOD and the Civil Commissioner in Port Stanley, from whom authority has to be obtained for civilian passages to the islands.

Travel is initially via an RAF VC10 from Brize Norton on a eleven hour flight to Ascension Island, then onward to Stanley on the airbridge - 13 hours in an Hercules (C130), which is an extremely uncomfortable flight.

The only alternative route is via ship (Uganda or Kerrin) from Ascension, which takes ten days.

Baggage is restricted to a maximum of 60 kilos, unless special arrangements are made.

Climate

Although on a latitude of 51° south, equivalent to the position of the south of England in the northern hemisphere), the climate could be equated with that of Northern Scotland.

As the nearest major landmass is over 400 miles away, the Islands are subject to constant winds and weather patterns which can change very rapidly.

The climate is generally cold and wet, and experiences rapid development of fog during the appropriate seasons of the year.

Accommodation

At present there is one hotel (The Upland Goose) and one boarding house in Stanley. Accommodation is at a premium, spartan and expensive. Reports received indicate that the boarding house is not to be recommended. The hotel does have central heating and a bar, but the food is limited in quality due to the lack of variety of meats available, an acute shortage of fresh vegetables, and a complete lack of fresh fruit available in the islands.

Transport

Landrover transport from Stanley to the lighthouse at

Cape Pembroke can be arranged for Trinity House personnel by the Harbour Master, and is provided by the Public Works Department; costs being charged direct to Trinity House.

Apart from a light aircraft service taking civilians between the settlements and islands, there is no 'public' transport available.

It may be possible to arrange transport of equipment by helicopter, arrangements to be made in advance with the Secretary to the Military Commissioner, but helicopters are in extremely short supply, and again costs would be rechargeable.

Engineering Facilities

In connection with work to be undertaken locally on the lighthouse, the Harbour Master can arrange for this to be done by the Public Works Department, who have limited civil engineering, mechanical and electrical works capability, although they are at present heavily committed to reconstruction and repair work.

Minor DIY type items are available from the West Store, the Falkland Islands Company Shop, other items readily available in the UK are not available in Stanley.

Fuels

There is no general fuel merchant on the islands, all fuel has to be obtained on a coupon system from a distribution point at Stanley Airport, where diesel, petrol, and aviation fuels are pumped ashore from a tanker moored in Port William.

Heavier fuels as used by some ships are obtainable from another tanker moored in San Carlos Water, on the other side of East Falkland.

Useful Addresses and Telephone Numbers

Falkland Islands Department, Foreign and Commonwealth Office	Tel: 01-233-8709
Falkland Islands Government, London Office, 29, Tufton Street, London SW1P 3QL.	Tel: 01-222-2542 Telex: 8950476
Mr. L. Holliday, Harbour Master, Falkland Islands Administration, The Secretariat, Port Stanley, Falkland Islands.	Tel: Falkland Islands 22 Telex: 212 CWBOOTH FK marked for attn. Harbourmaster.

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