

Taongi Atoll it should be accomplished in a fashion compatible with ultimate expansion to an installation comparable to a combination of the facilities now found on Enyu Island and in the Yurochi Complex of Bikini Atoll. With this in mind, Enclosure B is suggested as an embryo master plan. It features:

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DEPARTMENT OF DEFENSE
1ST REVIEW DATE: 02/10/54
AUTHORITY: EMAC 104
NAME: [Signature]
2ND REVIEW DATE: 02/10/54
AUTHORITY: ADD
NAME: [Signature]

Incl: 2

Oct 75

1. A timing, telemetering and communications facility (similar to Sta. 70 - Enyu) on the southernmost bit of real estate to reduce its vulnerability to shot damage as much as possible.
2. A small craft channel and landing in the location recorded in H. O. Publication No. 165A and H. O. Field Chart No. 4012. We assume that this location was logically selected from on-site information originally.
3. An alpha station on the most northern land mass since by nature of the measurement it must be the closest station to a shot and we desire to keep shots as far north as possible to minimize their effect on Item 1 above.
4. An airstrip on Pokaakku Island - rather than on the northerly end of Sibylla Island as H&N proposed in Enclosure A - as close to Item 1 above as flight safety permits.
5. A photo station south of the alpha station at a distance roughly equal to the separation between CASTLE Stations 1210 and 1342.
6. A camp located for convenience near the airstrip and boat landing since there is no invulnerable location on this Atoll for a camp.

In conclusion we wish to interject two cautions: Enclosure A was necessarily quickly prepared and assumes construction conditions at Taongi Atoll are no worse than those at Bikini and Eniwetok Atolls - this assumption may prove false and necessitate an upward revision of these estimates. Further, there exists interrelations between the items listed in the cost summaries which precludes elimination of individual items without appropriate adjustments in the costs of the remainder; i.e., elimination of the LST landing in the minimum condition would certainly increase the difficulty of building the telemetering station and hence would increase its cost.

Robert H. Campbell
Robert H. Campbell,
J-6

ENCLOSURES A & B AS ABOVE

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supporting vessel until the beachhead camp can be established. A 200-man camp of standard design (similar to Fox camp of Redwing) is proposed for maximum requirements. For the minimum requirements we contemplate either a 100-man camp ashore or a barge type barrack for both messing and housing. The costs provided hereinafter for camp facilities to support the minimum scope of work have been estimated to be the same for ashore or afloat operations. The camp facilities will be so planned that they may be expanded on an "as needed" basis.


Inc: A

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tower with radio communications will be as determined by the military using agency.

Causeways. Causeways connecting Pokaakku and Sibylla Islands with an estimated total length of 3700 feet is contemplated only for the maximum condition. The causeways will be of coral sand fill with rip rap used on the slopes where excessive erosion is likely. The crown width will be 24 feet with roadway surface stabilized with coral sand.



Harbor Facilities. For both maximum and minimum requirements a channel 300 feet wide with a depth of 20 feet at mean low water is proposed. The probable location is in the area south of Pokaakku Island or in the southwestern reef. The exact location will be determined from the site survey. For purposes of estimating costs we have assumed the length of the channel excavation to be 1000 feet.

A mole 75' x 150' long is proposed on the lagoon side for the maximum condition only.

The entrance channel and the approach to the mole contemplates the use of LSTs. It is assumed that the scientific barges will be outfitted at site Elmer and moved to Taongi in an LSD or under tow by a seagoing tug. Presently we contemplate that these barges will be taken in tow by LCMs and LCU off the entrance channel for movement into the lagoon. The feasibility of such an operation will require further study of current and sea conditions in the channel and in the operating area off the Atoll.

Construction Equipment. The cost estimates hereinafter provided cover both construction and operation equipment for the maximum and minimum scope contemplated. The equipment planned is that considered essential for the construction of the scientific stations, camp and the other service and support facilities. Any changes in the magnitude of the contemplated scope of work will be reflected in a change in equipment requirements.

Marine craft requirements will depend entirely on the modus operandi of gaining access to the Atoll. For planning purposes we assume approximately 4 LCMs, 2 LCUs, and 6 DUKWs will be required for both maximum and minimum conditions.

Foundation Investigations. We contemplate an early exploration party to obtain drilling core records and samples of the island soil and coral cap and the reefs for test and evaluation at the Elmer Laboratory.

Surface and Air Support. It is assumed that an LSD will be made available during the early construction period. This type vessel can carry loaded LCMs and LCUs with which we have assumed the first landings on the southwestern reef can be made. The use of an LST for these landings does not appear feasible. The water drops off to great depths just off the reef and it is doubtful that an LST would be able to use its stern anchor.

The LSD type vessel is the best suited to act as the mother ship for our craft during the early construction period. We do not know whether an anchorage to seaward of the Atoll exists or whether LSD operations will have to be accomplished with the vessel lying to. The docking facilities of the LSD make it very suitable for picking up our craft rapidly in case of bad weather. We will need the support of the LSD until we can make sufficient progress on the channel to permit passage of our landing craft. Thereafter we will require continuous and independent support of an LST.

The support of seaplanes for emergency evacuation or other emergency needs will be required until the airfield is constructed. On completion of the airfield we assume that airlift support will be similar to that provided on the Eniwetok-Bikini run during Redwing.

operations off the Taongi Atoll it seems logical that a representative of the agency that will furnish the support vessels accompany our first reconnaissance party. The method of operations and the support that we may expect can thereby be determined more realistically.

Construction Schedule. For the minimum scope of work contemplated it is estimated we will require 65 construction and 35 operation personnel for a period of 6-1/2 months. The maximum scope of work will require 120 construction and 80 operation personnel for a period of 7-1/2 months. These schedules cover on-site construction only; a minimum of four months must be added to these schedules for procurement and shipment of material and equipment. In estimating the time schedule it has been assumed that the topography of the proposed airstrip site will be similar to that of Nan and that beaches for landing craft, coral deposits, trees, underbrush and other conditions will be similar to those of other atolls in which we have operated.

Cost Estimates. The items of work contemplated and the cost estimates are summarized in the following tables:

Minimum Requirements

<u>ITEM</u>	<u>ESTIMATED COST</u>
1. Beachhead	12,000
2. Camp (As Fox-Redwing)	325,000
3. Access Channel - 20' Deep	686,000
4. Concrete Station (As Station 70 - Redwing)	295,000
5. 300' Steel Tower (As Station 5 - Redwing)	343,000
6. Five (5) Barge Anchorages	222,000
7. Inter-Atoll Communications	243,000
8. Submarine Cable	200,000
9. Seadrome	96,000
 <u>TOTAL MINIMUM CONSTRUCTION</u>	 2,422,000

RECAPITULATION

Construction Equipment	471,340
Operational Equipment	35,000
Construction Projects	2,422,000
<u>TOTAL</u>	<u>2,928,340</u>

Maximum Requirements

<u>ITEM</u>	<u>ESTIMATED COST</u>
1. Beachhead	12,000
2. Camp - 200-Man	450,000
3. Airstrip	560,000
4. Access Channel - 20'	686,000
5. 3 Concrete Stations as Redwing	1,013,000

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Mr. Joe B. Sanders

Subject: Taongi Atoll - Construction and Support Requirements

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Maximum Requirements (Continued)

	<u>ITEM.</u>	<u>ESTIMATED COST</u>
6.	Five (5) Barge Anchorages	222,000
7.	Seadrome Facility	96,000
8.	Inter-Atoll Communications	243,000
9.	Submarine Cable	613,000
10.	300' Steel Tower	343,000
11.	Concrete Station (Redwing - Station 70)	295,000
12.	Access Roads & Causeways	180,000
13.	Mole Type Pier	98,000
TOTAL CONSTRUCTION		4,811,000
<u>RECAPITULATION</u>		
	Construction Equipment	1,022,510
	Operational Equipment	50,000
	Construction Projects	4,811,000
	TOTAL	5,883,510

Very truly yours,

HOLMES & NARVER, INC.

/s/ S. P. Howell (AHG)
Project Manager

cc: Mr. F. W. Hohner, AEC Constr. Representative
Mr. R. Campbell, J-6, LASL

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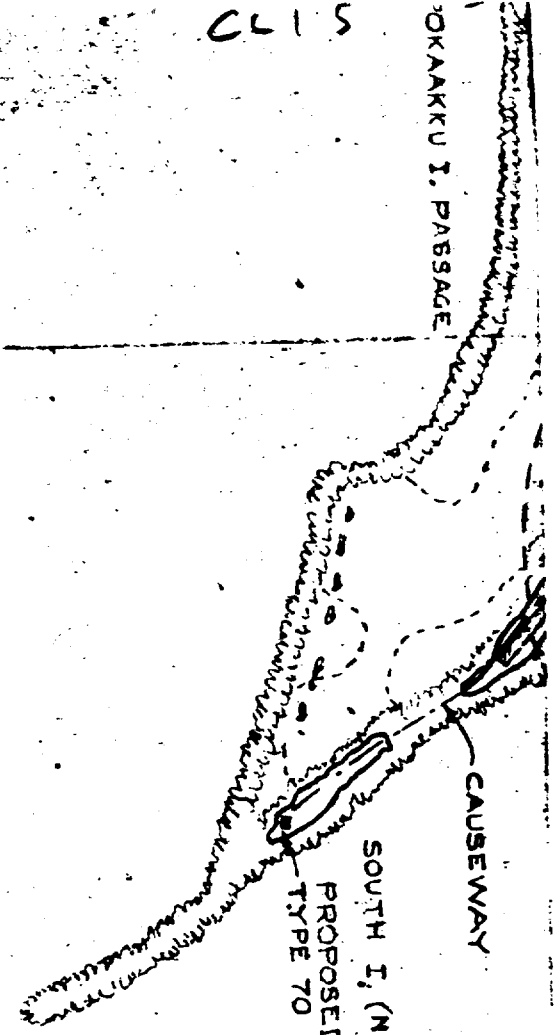
CL 15

OKAOKKU I. PASSAGE

CAUSEWAY

SOUTH I, (MAN)

PROPOSED TYPE 70 STATION



168° 55'

SCALE : THOUSANDS OF FEET



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PROPOSED TAONGI
MASTER PLAN

LASL. J-8 SKETCH

Date	2/1/57	Drawn by: R-4.
Doc Ref: J6-3465	No. E-454	

1-1195400

Sub: B

CL 15

14° 35'

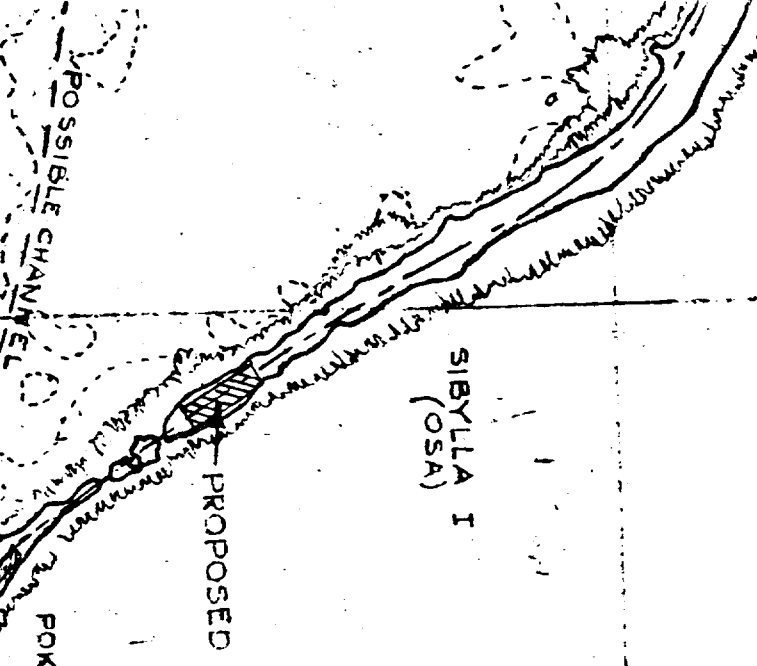
PROPOSED CAMERA STATION

SIBYLLA I
(OSA)

PROPOSED CAMPSITE

POKAKKU I.

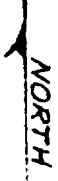
PROPOSED AIRSTRIP



169.

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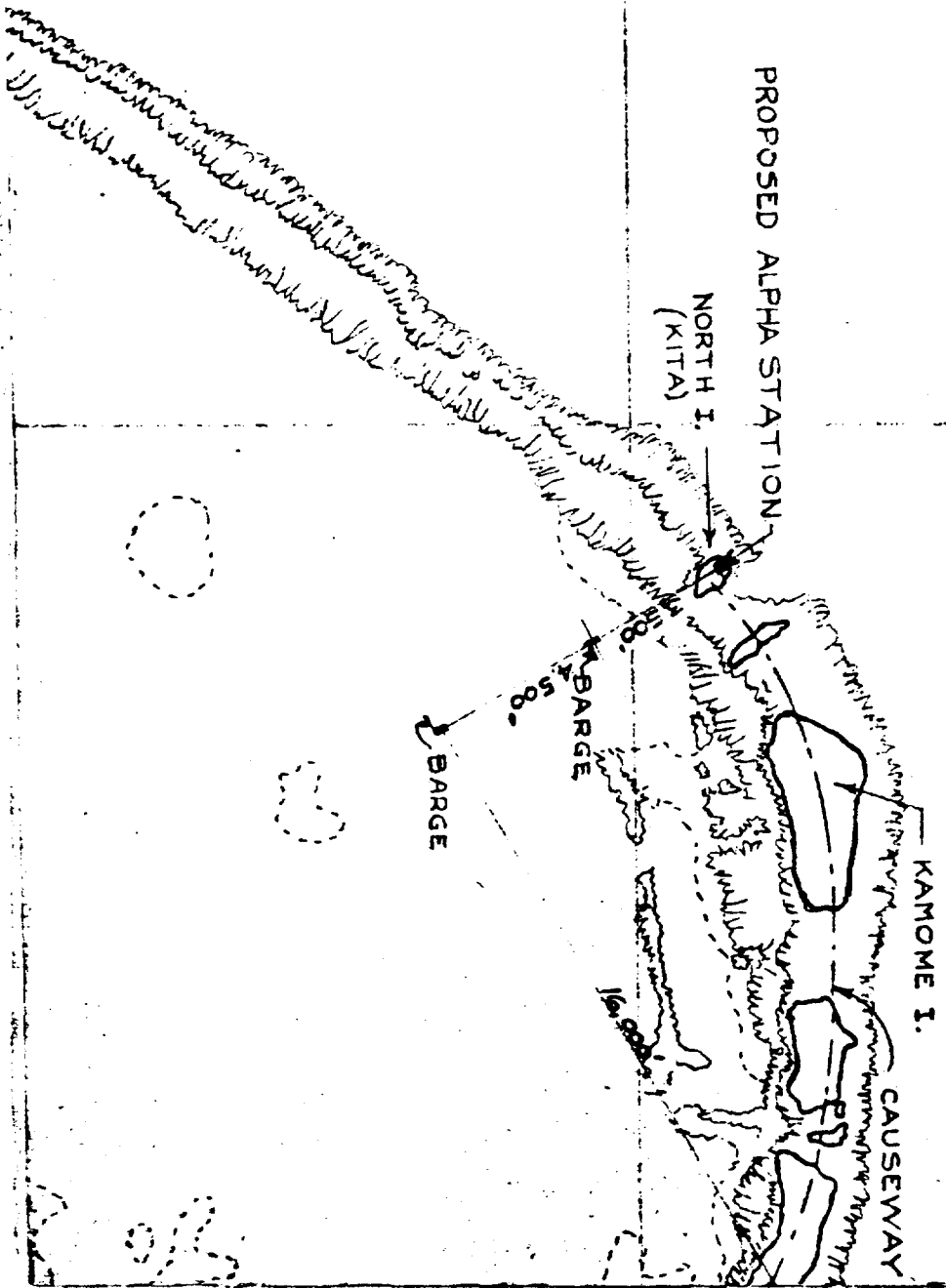
169°

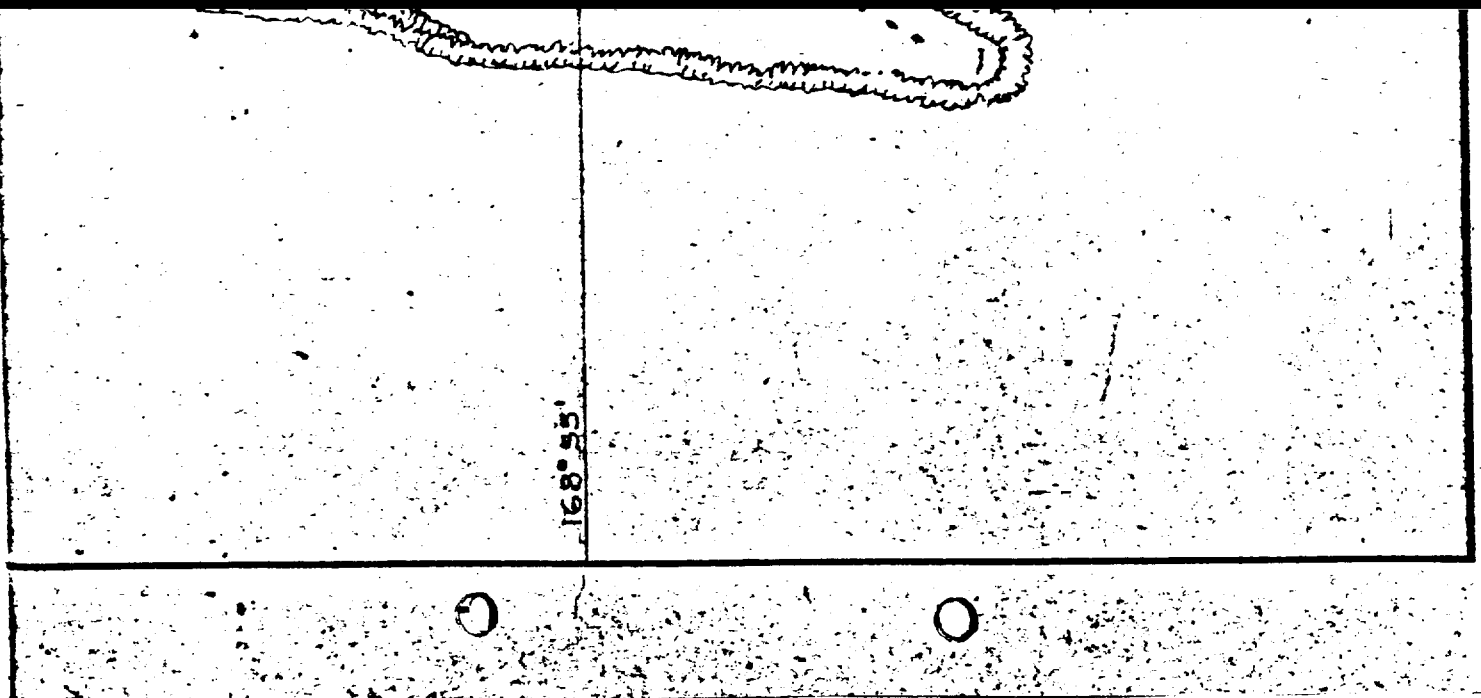


PROPOSED ALPHA STATION

NORTH I.
(KITA)

14° 40'





168° 55'

ENTREPRENEUR

D-DAY	D+1	D+2	D+3	D+4	D+5	D+6	D+7

1 LSD:

2 LSD's:

LSD awaits results of radio-logical survey before dispatching small boats.

Small craft reenter lagoon.

LSD departs for Da Nang.

Shot barge for next event loaded into LSD.

LSD departs for TAONGI.

LSD arrives at TAONGI. Unloading and moving of barge starts.

TAONGI LSD SUPPORT

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