

2. Furnish all labor and equipment and perform all work necessary to relocate approximately 2975 lineal feet of existing unimproved fence.

All of the work to be done shall be in accordance with the "Specifications to Accompany Job Order No. 74", and the details shown on the drawings enumerated in the Specifications.

The total cost of the work to be done shall not exceed \$7,872.00.

/s/ Theodore Wyma, Jr.,
THEODORE WYMA, JR.,
Lt. Col., Corps of Engineers,
District Engineer.

Reconciliation of estimated cost

3. Total Cost of Work:

(a) Direct Cost:

Total Cost to the Contractor.....	\$7,872.00
Contingencies—10%.....	787.20

Total Direct Cost.....	\$8,659.20
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(b) Indirect Cost:

Survey, Inspection, Engineering.....	\$629.78
Total Indirect Cost.....	629.78

Total Indirect Cost.....	629.78
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General Office Overhead.....	629.76
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Estimated Total Cost to the Government.....	9,918.72
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This estimate is prepared for use in the District only and is not for distribution to the Contractor.

/s/ Theodore Wyma, Jr.,
THEODORE WYMA, JR.,
Lt. Col., Corps of Engineers,
District Engineer.

ARMY PEARL HARBOR BOARD EXHIBIT NO. 41

Summary

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
Honolulu, T. H., March 15, 1941.

Contract No. W414-eng-602

Punchbowl, Oahu T. H.

Job Order #14.0.

Construct—reinforced concrete fire control station at Punchbowl.

Est. Cost: \$3,650.00.

Commencement Date: March 10, 1941.

Est. date for completion: April 10, 1941.

Supervision by J. J. Kestly, Area Engr., 3rd Field Area.

WAR DEPARTMENT,
U. S. ENGINEER OFFICE,
Honolulu, T. H., Mar. 15, 1941.

JOB ORDER NO. 14.0.

Contract No. W-414-eng-602.

To: Hawaiian Constructors, Honolulu, T. H.

You are hereby directed to proceed with the following work:

1. PROJECT TITLE: Fire Control Station at Punchbowl.
2. LOCATION: Honolulu, Oahu, T. H.
3. OFFICE FILE REFERENCE: 2013.4 F.
4. WORK TO BE DONE: Construct and complete reinforced concrete fire control station at Punchbowl.
5. WORK REQUESTED BY: Commanding General—Hawaiian Department.
6. DRAWINGS AND REFERENCES: See paragraph 1-03 Specifications.

7. APPROPRIATION CHARGEABLE: C. A. C. 131 P 99 A 1210-N.
8. ESTIMATED COST: \$3,650.00.
9. COMMENCEMENT DATE: March 10, 1941.
10. ESTIMATED DATE FOR COMPLETION: April 10, 1941.
11. ESTIMATED LABOR AT SITE: 1840 man hours.
12. PLANT REQUIRED: See detailed estimate attached.
13. MATERIALS: See detailed estimate attached.
14. SUPERVISION BY: J. J. Kestly, Area Engineer, 3rd Field Area.

(Signed) Theodore Wyman, Jr.,
 THEODORE WYMAN, JR.,
Lt. Col., Corps of Engineers
District Engineer.

Approved: April 3, 1941.

WARREN T. HANNUM,
Colonel, Corps of Engineers,
Division Engineer.

ESTIMATE OF COST

To Accompany Job Order No. 14.0

Contract No. W-414-eng-602

ESTIMATE OF COST: Fire Control Station, Punchbowl, Oahu, T. H.
 DISTRICT: Honolulu District, Honolulu, T. H.

The work to be done is at Punchbowl on the Island of Oahu, and includes the furnishing of all necessary labor and equipment and the performing of all work necessary to construct a reinforced concrete fire control station, complete with all utilities and fixtures, all of the work to be done shall conform to the provisions of specification, "The Construction of a Fire Control Station, Punchbowl, and appurtenant work to accompany Job Order No. 14.0 to Contract No. W-414-eng-602", and the details shown on the following drawings:

<i>Sheet No.</i>	<i>Description</i>	<i>File No.</i>
1	Project Location and Index to Drawings.....	F-3/39
2	Detailed Location of Work and Typical Sections.....	F-3/40
3	Instrument Bldg.—Plan, Details, and Bar Schedule.....	F-3/41
4	Miscellaneous Metal—Standard Details.....	F-3/42

The estimated cost of the work to be done is as follows:

1. *Materials to be furnished:*

Item	Designation	Quantity	Unit	Unit cost	Amount
1	Cement (From Base Yard Delivered).....	45	bbls.	\$3.04	\$136.80
2	Coarse Aggregate (Local Delivered).....	30	cu. yd.	3.00	90.00
3	Fine Aggregate (Local Delivered).....	15	cu. yd.	2.70	40.50
4	Reinf. Steel (From Base Yard Delivered).....	3,850	lbs.	0.045	173.25
5	Structural Steel (Local Delivered).....	1,640	lbs.	0.10	164.00
6	Lumber (From Base Yard Delivered).....	4,300	b. f.	45.00M	193.50
7	Hardware & Electrical Fixtures (lump sum) (Local at Honolulu).....				50.00
8	Paint (Local at Honolulu).....	1	gal.	2.75	2.75
9	Nails (Local at Honolulu).....	100	lbs.	0.08	8.00
10	Dynamite (From 1st F. A. Magazine).....	200	lbs.	0.125	25.00
	Total Cost of Materials.....				883.80

2. *Day Labor:*

(a) <i>Clearing Site:</i>			
8 man hours.....	@	\$1.50	\$12.00
24 man hours.....	@	0.50	12.00
(b) <i>Excavating for Instrument House:</i>			
18 man hours.....	@	1.50	24.00
48 man hours.....	@	0.65	31.20
480 man hours.....	@	0.50	240.00

(c) <i>Placing Concrete and Steel Instrument House:</i>		
16 man hours-----	@ \$1.50	\$24.00
32 man hours-----	@ 1.00	32.00
32 man hours-----	@ 0.65	20.80
160 man hours-----	@ 0.50	80.00
(d) <i>Placing Structural Steel and Shutters:</i>		
24 man hours-----	@ 1.50	36.00
40 man hours-----	@ 1.00	40.00
24 man hours-----	@ 0.65	15.60
100 man hours-----	@ 0.50	50.00
(e) <i>Backfilling Structure:</i>		
16 man hours-----	@ 1.50	24.00
24 man hours-----	@ 1.00	24.00
240 man hours-----	@ 0.50	120.00
(f) <i>Drilling and Blasting for Excavation:</i>		
20 man hours-----	@ 1.50	30.00
80 man hours-----	@ 0.75	60.00
80 man hours-----	@ 0.50	40.00
(g) <i>Operators of Rented Plant:</i>		
120 man hours-----	@ 1.00	120.00
224 man hours-----	@ 0.75	168.00
Total Cost of Day Labor-----		<u>1,203.60</u>

3. *Plant Operation:*

(a) <i>Plant to be Leased:</i>		
1 Concrete Mixer— $\frac{1}{4}$ cu. yd-----	6 da. @ 2.50	15.00
2 Jackhammers-----	6 da. @ 1.50	18.00
1 Compressor #210-----	6 da. @ 10.00	60.00
1 Truck— $1\frac{1}{2}$ ton-----	21 da. @ 5.00	105.00
Total Plant to be leased-----		<u>198.00</u>
(b) Fuel, Oil, Hand Tools, Supplies (lump sum)-----		150.00
Total Plant Operation Cost-----		<u>348.00</u>

4. *Total Plant Operation Cost of Job:*

Cost of Materials-----	\$883.80	
Cost of Day Labor-----	1,203.60	
Cost of Plant Operations-----	348.00	
Total Plant Operation Cost-----		<u>2,435.40</u>

5. *Total Cost of Work:*

(a) <i>Direct Cost:</i>		
(a) Total Plant Operation Cost-----		2,435.40
Contingencies—15%-----		365.31
Total Direct Cost-----		<u>2,800.71</u>
(b) <i>Indirect Cost:</i>		
Mobilization and Demobilization-----	\$300.00	
Engr. Inspection and Supervision—10%-----	280.00	
Total Indirect Cost-----		<u>580.00</u>
Total Field Cost-----		3,380.71
General Office Overhead—8%-----		269.29
Estimated Grand Total Cost by Hired Labor and Govern- ment Plant-----		<u>3,650.00</u>

(Signed) Theodore Wyman, Jr.,
THEODORE WYMAN, JR.,
Lt. Col., Corps of Engineers,
District Engineer.

UNSKILLED LABOR

Class 1—\$0.50 per hour.
 Shovelers
 Material Handlers
 Water Boy

SEMI-SKILLED LABOR

Class 2—\$0.65 per hour.
 Carpenter Helpers
 Class 3—\$0.75 per hour.
 Truck Drivers
 Jackhammer man
 Powder man

SKILLED LABOR

Class 4—\$1.00 per hour.
 Carpenters
 Cement Finishers
 Class 5—\$1.50 per hour.
 General Foreman

ARMY PEARL HARBOR BOARD EXHIBIT No. 4J

Summary
 CBU/3W

WAR DEPARTMENT,
 UNITED STATES ENGINEER OFFICE,
 Honolulu, T. H., March 18, 1944.

Contract No. W-114-cng-602

Diamond Head, Oahu, T. H.
 Job Order No. 150.

Contract—reinforced concrete fire control station, together with necessary access trail.

Est. Cost: \$5,785.00.

Commencement Date: March 22, 1944.

Est. Date for Completion: April 22, 1944.

Supervision by J. J. Kestley, Area Engr., 3rd Field Area.

WAR DEPARTMENT,
 UNITED STATES ENGINEER OFFICE,
 Honolulu, T. H., March 18, 1944.

JOB ORDER NO. 150.

Contract No. W-114-cng-602.

To: Hawaiian Constructors, Honolulu, T. H.

You are hereby directed to proceed with the following work:

1. PROJECT TITLE: Fire Control Station at Diamond Head.
2. LOCATION: Honolulu, T. H.
3. OFFICE FILE REFERENCE: 26133.
4. WORK TO BE DONE: Construct and complete reinforced concrete fire control station, together with necessary access trail.
5. WORK REQUESTED BY: Commanding General—Hawaiian Department.
6. DRAWINGS AND REFERENCES: See paragraph 1-04 of Specifications.
7. APPROPRIATION CHARGEABLE: CAC 131 150 A-1216-S.
8. ESTIMATED COST: \$5,785.00.
9. COMMENCEMENT DATE: March 22, 1944.
10. ESTIMATED DATE FOR COMPLETION: April 22, 1944.
11. ESTIMATED LABOR AT SITE: 2,916 man hours.
12. PLANT REQUIRED: See detailed estimate attached.
13. MATERIALS: See detailed estimate attached.
14. SUPERVISION BY: J. J. KESTLEY, Area Engineer, Third Field Area.

(Signed) Theodore Wyman, Jr.,
 THEODORE WYMAN, Jr.,
 Lt. Col., Corps of Engineers,
 District Engineer.

Approved: April 3, 1944.

(Signed) Warren T. Hannum,
 WARREN T. HANNUM,
 Colonel, Corps of Engineers,
 Division Engineer.