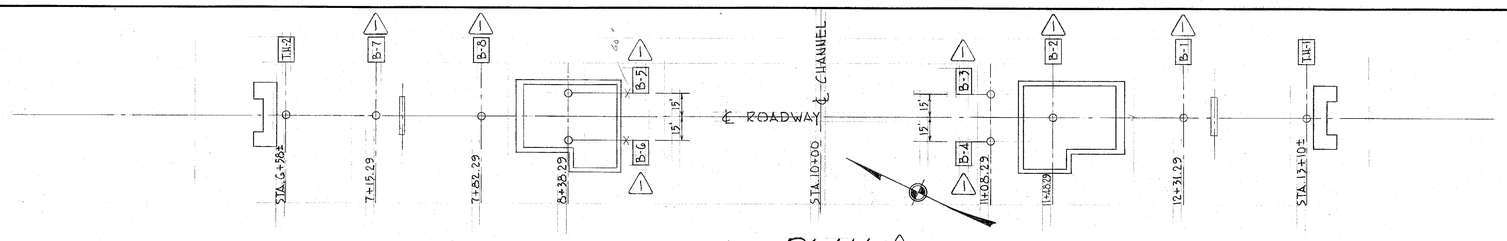
CORPS OF ENGINEERS

U. S. ARMY



PLAN

Scale: 1" = 40.0'

TH-2

A	B	C
SM	BROWN COARSE CORAL SAND AND GRAVEL (FILL)	7
SM	LOOSE BROWN SAND-SILT MIXTURE	14
SM	DENSE BLACK COARSE SAND-SILT MIXTURE	33 30 20
MH	LOOSE GRAY-BLACK SILT W/SOME SAND AND CORAL FRAGMENTS	4 17 6 4
SM	DENSE BROWNISH-BLACK SAND-SILT-CORAL FRAG. MIXTURE	31 33 37 50
	VERY DENSE GRAY BROWN SAND-SILT-CORAL-FRAGMENT MIXTURE	63 50* 30** 50* 51 52

* REFUSED AFTER 30 BLOWS
** NO PENETRATION

B-7

A	B	C
	WATER	
SM	VERY LOOSE TO MEDIUM DENSE GRAY SAND-SILT-CORAL FRAGMENT MIXTURE	4 12 18
GP-GM	DENSE WHITE CORAL FRAG.-SILT-SAND MIXTURE	36
SM	DENSE TO VERY DENSE WHITE CORAL FRAG.-SILT-SAND MIXTURE	67 36 105 38 31

B-8

A	B	C
	WATER	
GM	MEDIUM DENSE LT. GRAY CORAR FRAG.-SILT-SAND MIXTURE	13
SM	DENSE WHITE CORAL FRAGMENTS-SILT-SAND MIXTURE	40 26 35 31 42
GM	MEDIUM DENSE WHITE CORAL FRAGMENTS-SILT-SAND MIXTURE	16 29 127
SM	DENSE LT. BROWN DECOMPOSED CORAL FRAG.-SAND-SILT MIXTURE	39
GM	VERY DENSE WHITE CORAL FRAGMENTS-SAND-SILT MIXTURE	66 48 53

B-6

A	B	C
	WATER	
SM	LOOSE WHITE SILTY SAND	
GP	MEDIUM DENSE WHITE CORAL FRAG. SAND-SILT MIXTURE	17 14 *
SM	VERY DENSE WHITE CORAL FRAG.-SILT-SAND MIXTURE	66 52
SP	DENSE WHITE CORAL FRAG.-SILT-SAND MIX.	42
SM	LOOSE TO VERY DENSE WHITE CORAL FRAGMENTS-SILT-SAND MIXTURE	25 62 71
GP-GM	DENSE TO VERY DENSE WHITE CORAL FRAG.-SAND-SILT MIX.	38 108

* MINOR ARTESIAN PRESSURE AT EL. -50, PRODUCING A 4 INCH HEAD OF WATER FOR SEVERAL MINUTES, UNTIL BORING PENETRATED BELOW EL. -53.

B-5

A	B	C
	WATER	
SM	MEDIUM TO VERY DENSE WHITE CORAL FRAGMENTS-SILT-SAND MIXTURE	38 41 53 48 29 39 33

B-4

A	B	C
	WATER	
GP	MEDIUM TO DENSE WHITE CORAL FRAG. SAND-SILT MIXTURE	30 43
	DENSE TO VERY DENSE WHITE CORAL FRAGMENTS-SILT-SAND MIXTURE	100 53 40 58 32

B-3

A	B	C
	WATER	
	MEDIUM TO VERY DENSE WHITE CORAL FRAGMENT-SILT-SAND MIXTURE	53 20 56 42 48 34
SM	MEDIUM DENSE LT. BROWN SAND-SILT-CORAL FRAG. MIXTURE	19 16 72
MH	VERY DENSE DARK BROWN FINE SANDY SILT	120 60 56 76 83

B-2

A	B	C
	WATER	
SM	SOFT DARK GRAY SILT-SAND MIX	
SM	VERY DENSE DARK GRAY CORAL-SILT & SAND	58
	LOOSE TO DENSE WHITE CORAL FRAGMENTS-SILT-SAND MIXTURE	30 48 7 18 25
GW-GM	VERY DENSE WHITE CORAL FRAG. W/SILT & SAND	58
SP-SM	LOOSE TO MED. WHITE CORAL SAND-SILT MIXTURE	23 10
SM	DENSE WHITE CORAL FRAG.-SILT-SAND MIXTURE	40

B-1

A	B	C
	WATER	
SM	DENSE TO VERY DENSE LT. GRAY-WHITE SAND-SILT-CORAL FRAG. MIXTURE	43 83
MH	MEDIUM BROWN FINE SANDY SILT	13 42
	MEDIUM DENSE TO VERY DENSE WHITE CORAL FRAGMENTS-SILT-SAND MIXTURE	14 28 63 21 62 42

TH-1

A	B	C
SM	BROWN COARSE CORAL SAND AND GRAVEL (FILL)	6
SM	MEDIUM DENSE BLACK SAND-SILT MIXTURE	24 26 20
MH	LOOSE GRAY-BLACK SILT W/SOME SAND & CORAL FRAG.	19 3 5 1 27
SM	VERY DENSE HARD GRAY-WHITE CORAL FRAGMENTS-SAND-SILT MIXTURE	19 51 35 50
GW-GM	MED DENSE GRAY SAND-SILT-CORAL FRAG. MIX.	15 19
	VERY DENSE GRAY CORAL FRAG.-SAND-SILT MIXTURE	

AS BUILT

NOTES:

1. COLUMN "A" DENOTES GRAPHICAL PRESENTATION OF SOILS DATA IN ACCORDANCE WITH UNIFIED SOIL CLASSIFICATION SYSTEM.
2. COLUMN "B" DENOTES DESCRIPTION OF MATERIALS
3. COLUMN "C" DENOTES THE NUMBER OF BLOWS, AT THE APPROPRIATE DEPTH, OF 2" SAMPLE SPOON USING 140 LB. HAMMER FALLING 30 INCHES.

RELATIVE DENSITY OF SANDS AND SILTS BASED ON RESULTS OF STANDARD PENETRATION TESTS

NUMBER OF BLOWS	0-4	4-10	10-30	30-50	OVER 50
RELATIVE DENSITY	VERY LOOSE	LOOSE	MEDIUM	DENSE	VERY DENSE

GRAPHIC SCALE 1" = 40'

SYMBOL	DATE	REVISIONS DESCRIPTION	BY	CHKD	APP
21	JUL 59	REVISED BORING LOCATION PLAN AND BORING LOGS; ADDED NOTES AND DENSITY TABLE	RC	[illegible]	[illegible]

LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS — HONOLULU, SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS HONOLULU, T.H.

DRAWN BY: A.J.G.
TRACED BY:
CHECKED BY: PML
SUBMITTED BY: L.O. Holgreen

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
TEST HOLE LOGS

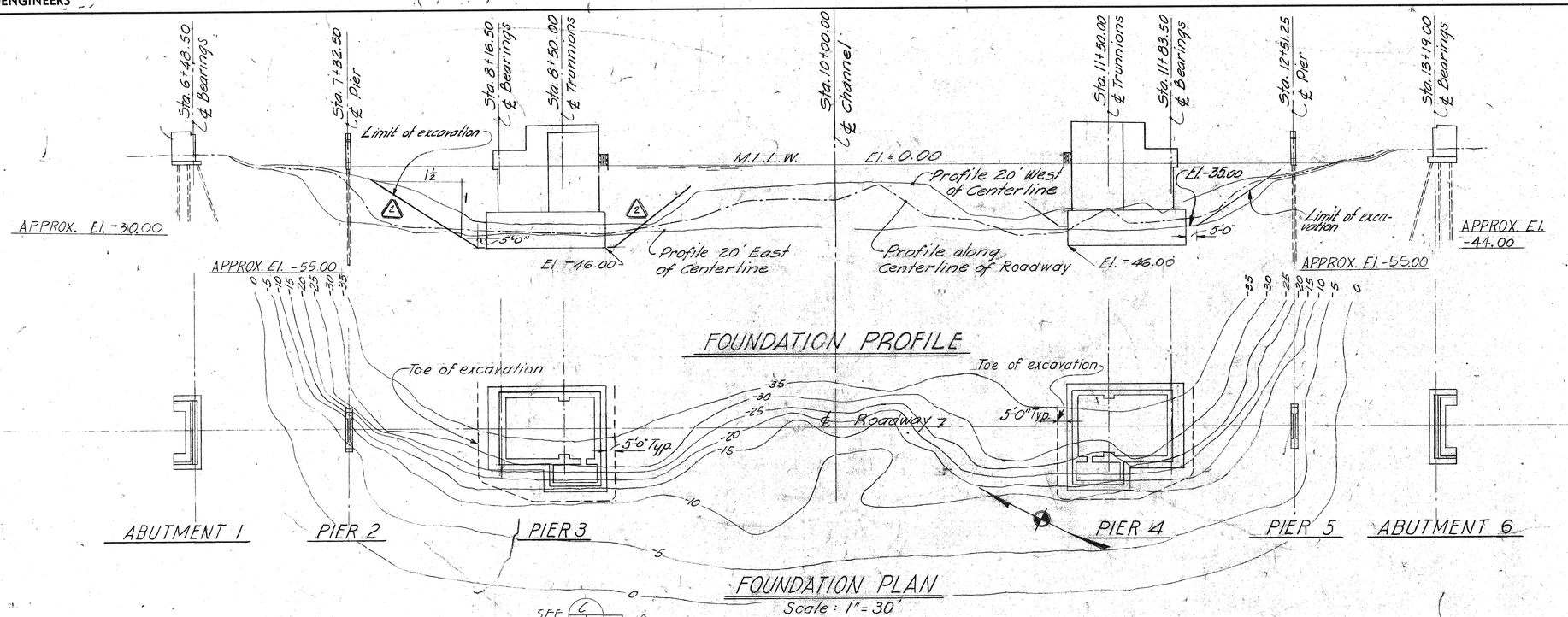
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959

APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

SCALE As shown
DRAWING NUMBER AS BUILT
SHEET 4 RH 9/64.4

CORPS OF ENGINEERS

U. S. ARMY



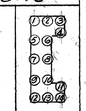
NOTES:

For Additional Anchor Bolts see Details J 19/9 and D 18/9

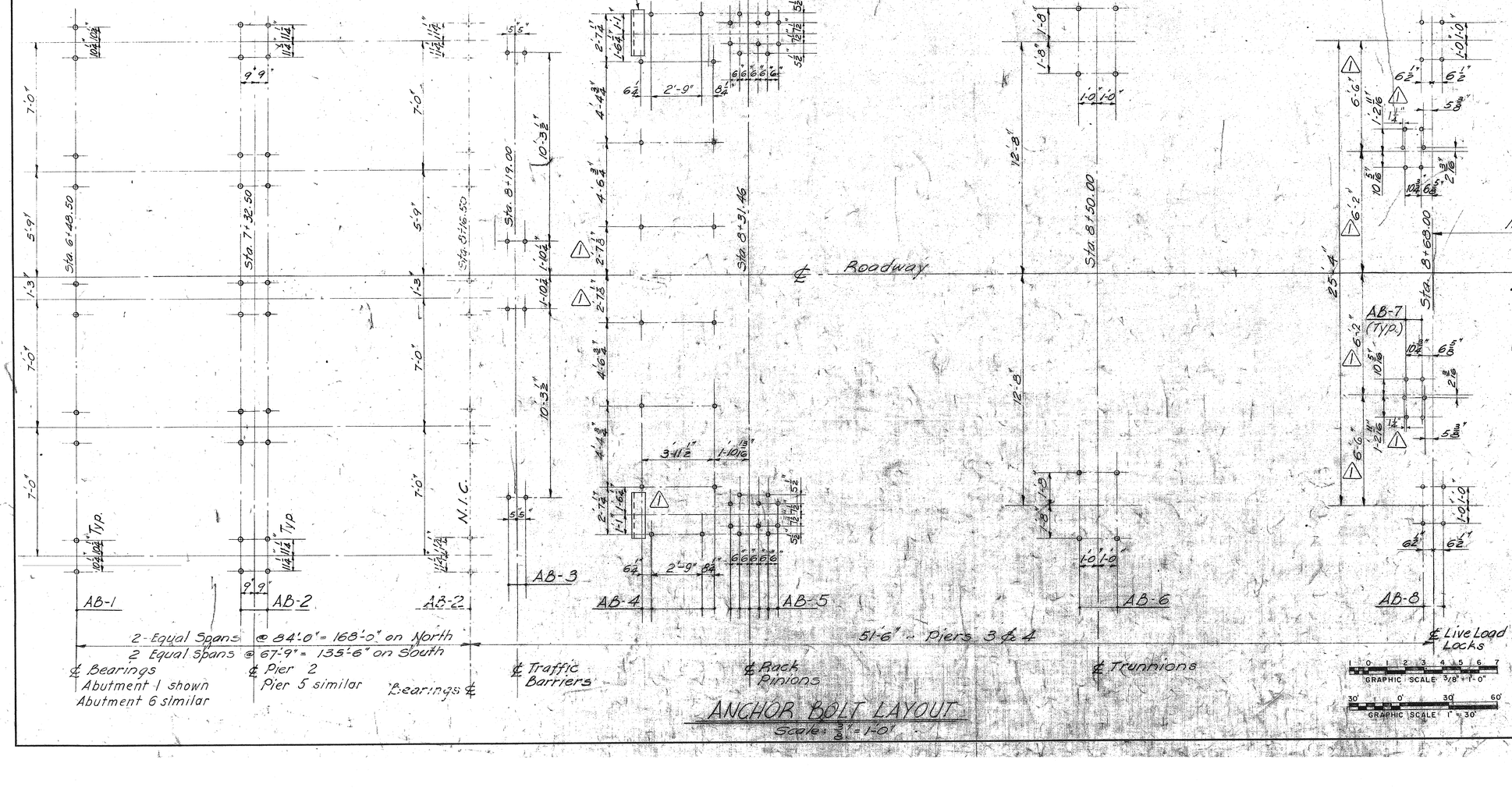
For Anchor Bolt Details see Sheets 6, 7, 17, 18 and 19.

Maximum design soil pressure Pier 3 and 4
Dead Load.....4000 psf
Dead Load plus Live Load..4250 psf.

SCHEDULE OF PILE TIP ELEVATIONS

PILE NO.	 ABUTMENT 1	 PIER 2	 PIER 5	 ABUTMENT 6
1	- 21.10	-69.86	-14.80	- 17.19
2	- 20.32	- 23.10	-20.17	- 15.27
3	- 22.13	- 28.75	- 20.25	- 15.11
4	- 21.45	- 21.83	- 57.08	- 20.21
5	- 20.50	- 20.00	-14.58	- 14.07
6	- 24.44	-20.60	-20.42	- 21.48
7	- 20.52	- 22.10	- 20.75	- 14.41
8	- 19.16	- 20.10		- 17.56
9	- 21.00			- 50.34
10	- 20.00			- 21.91
11	- 20.50			- 18.32
12	- 19.49			- 15.03
13	- 25.50			- 16.64
14	- 18.44			- 21.20

2 FOR PILE TIP ELEVATIONS OF PIER 4 SEE DWG. NO. RH 9/64.5 SHEET NO. 1



ANCHOR BOLT LAYOUT
Scale: 3/8" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
4 / 2	13/Mar/1959	AS BUILT REVISED LIMIT OF EXCAVATION AT PIER 3 ADDED SCHEDULE OF PILE TIP ELEVATIONS ADDED NOTE	JJZ		
10 / 1	21/JUL/1959	REVISED DIMENSIONS AND ADDED 1 @ 5"X1"X 2'-6" AND TWO BOLTS IN ANCHOR BOLT LAYOUT	EC	CP	

REVISIONS

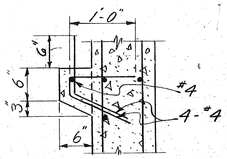
LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

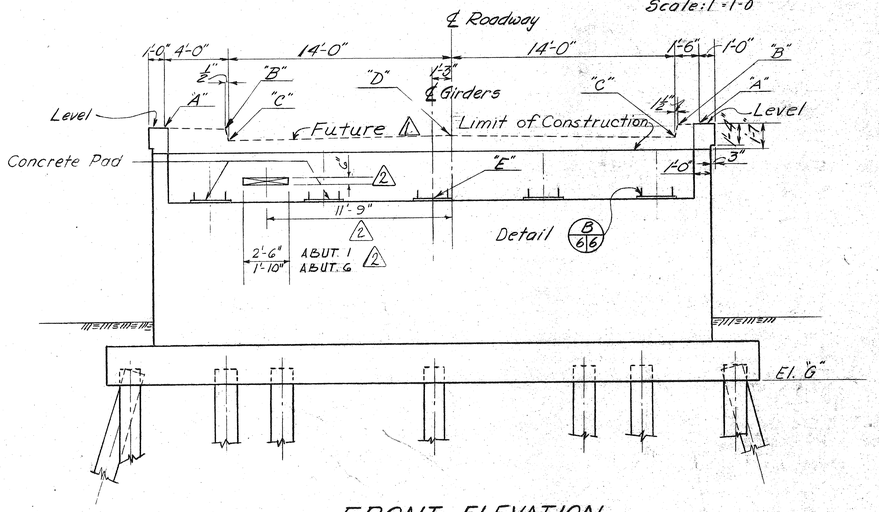
DRAWN BY: A. J. G.
TRACED BY:
CHECKED BY: PML
SUBMITTED BY: C. A. McCown
APPROVAL RECOMMENDED: M. Palmer
CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: M. Smith
CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: M. Mallet Hall
LT. COLONEL, CORPS OF ENGINEERS
DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
FOUNDATION PLAN AND ANCHOR BOLT LAYOUT

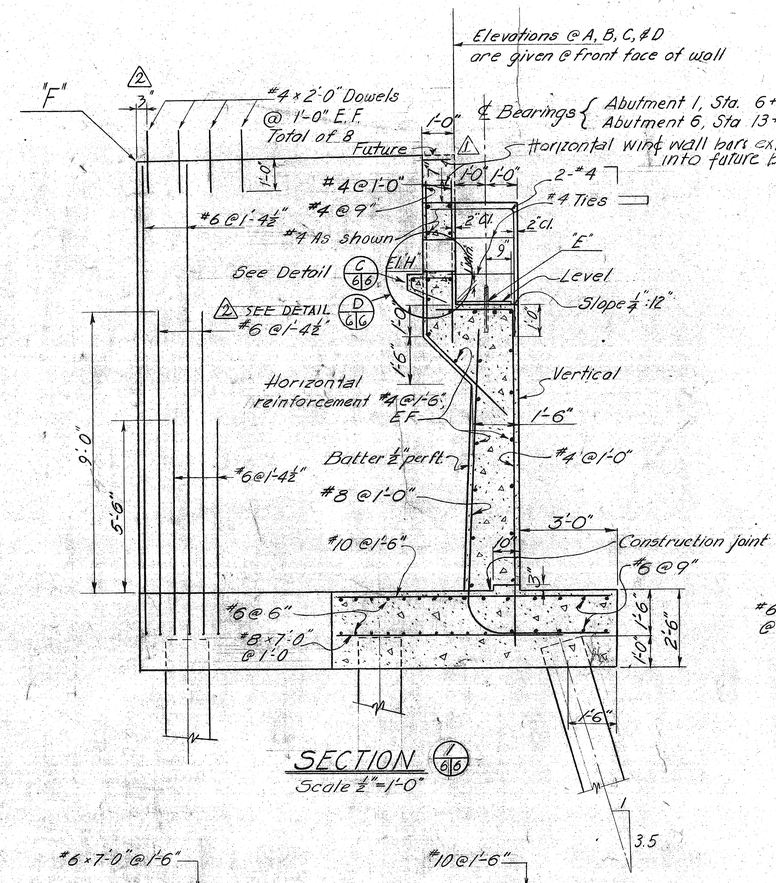
SCALE AS SHOWN
DRAWING NUMBER AS BUILT
SHEET 5
RH 9/64.5



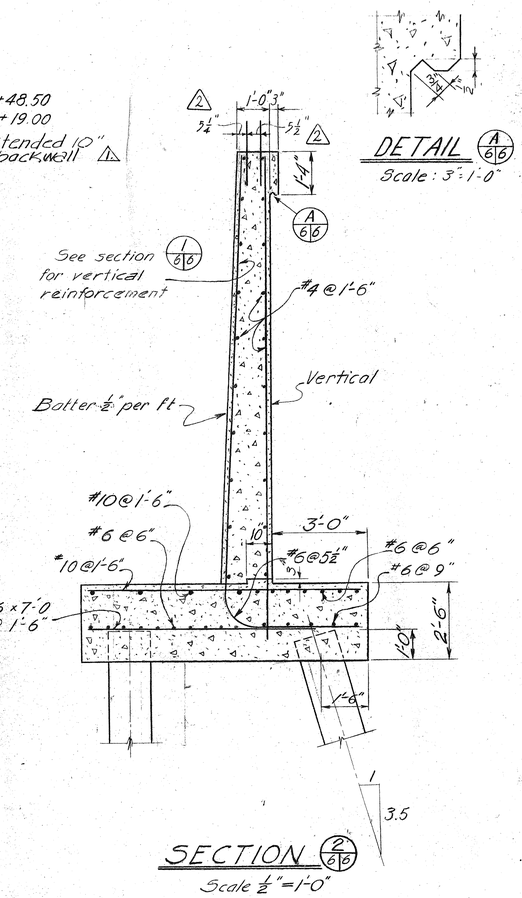
⚠2 DETAIL (C 6/6)
Scale: 1" = 1'-0"



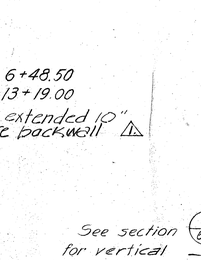
FRONT ELEVATION
Scale 1/4" = 1'-0"



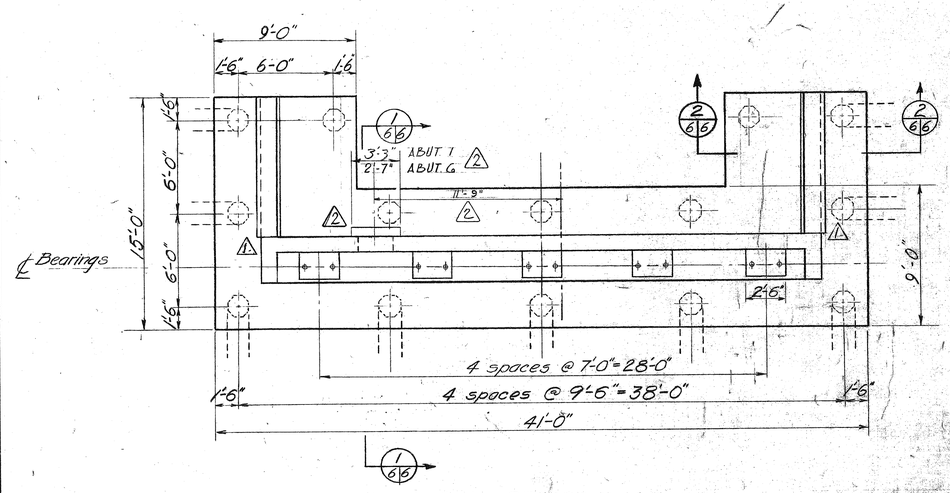
SECTION (1 6/6)
Scale ½" = 1'-0"



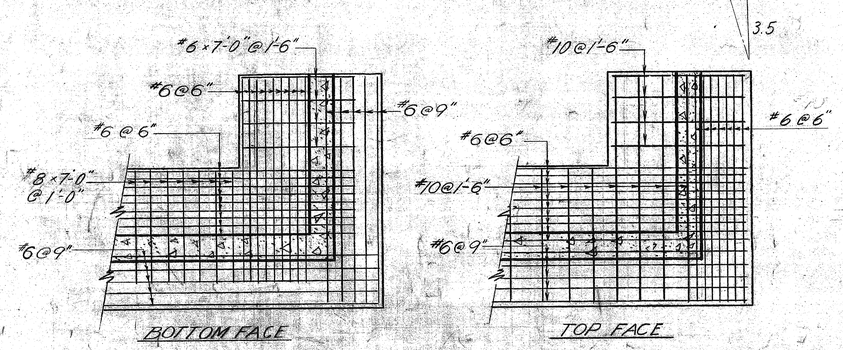
SECTION (2 6/6)
Scale ½" = 1'-0"



⚠2 DETAIL (D 6/6)
SCALE: ½" = 1'-0"



PLAN
Scale 1/4" = 1'-0"



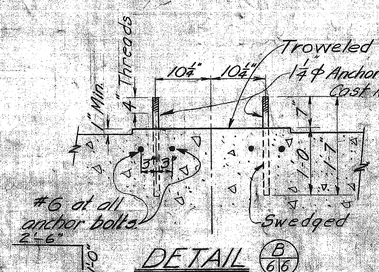
FOOTING REINFORCEMENT
(Reinforcement bars from the wall not shown.)
Scale: 1/4" = 1'-0"

ABUTMENT 1

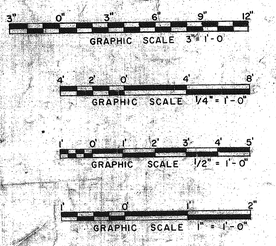
ABUTMENT 6 OPPOSITE HAND

Table of Elevations		
Point	Abutment 1	Abutment 6
"A"	18.78	19.87
"B"	18.70	19.79
"C"	17.95	19.04
"D"	18.10	19.19
"E"	14.09	15.17
"F"	18.42	19.54
"G"	2.35	3.44
"H"	15.12	16.21

⚠2



DETAIL (B 6/6)
Scale: 1" = 1'-0"
ANCHOR BOLTS NO 1 ⚠2



NOTES:

Piles are 16" octagonal prestressed concrete piles. Dead Load + Live Load per pile..... 60 Tons
Vertical piles shown as ○
Battered piles shown as ○---
See Sheet 5 for pile tip elevations.
Clearance to reinforcement 3" except where shown otherwise.
For bar bending details & cover requirements see Sheet 15.

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
⚠4	21 AUG 1959	REVISED DET. C/6/6, FRONT ELEVATION, PLAN, DIMENSIONS IN SECTION 1/6/6 & 2/6/6, ELEVATIONS FROM ELEVATION & PLAN POINTS H IN TABLE OF ELEVATIONS, ADDED DET. D/6/6 AND ADDED "ANCHOR BOLTS NO 1" UNDER DET. B/6/6	RC	CP	
⚠5	1 JULY 1959	Revised top of backwall, added steel	SHF	F.F.	

REVISIONS

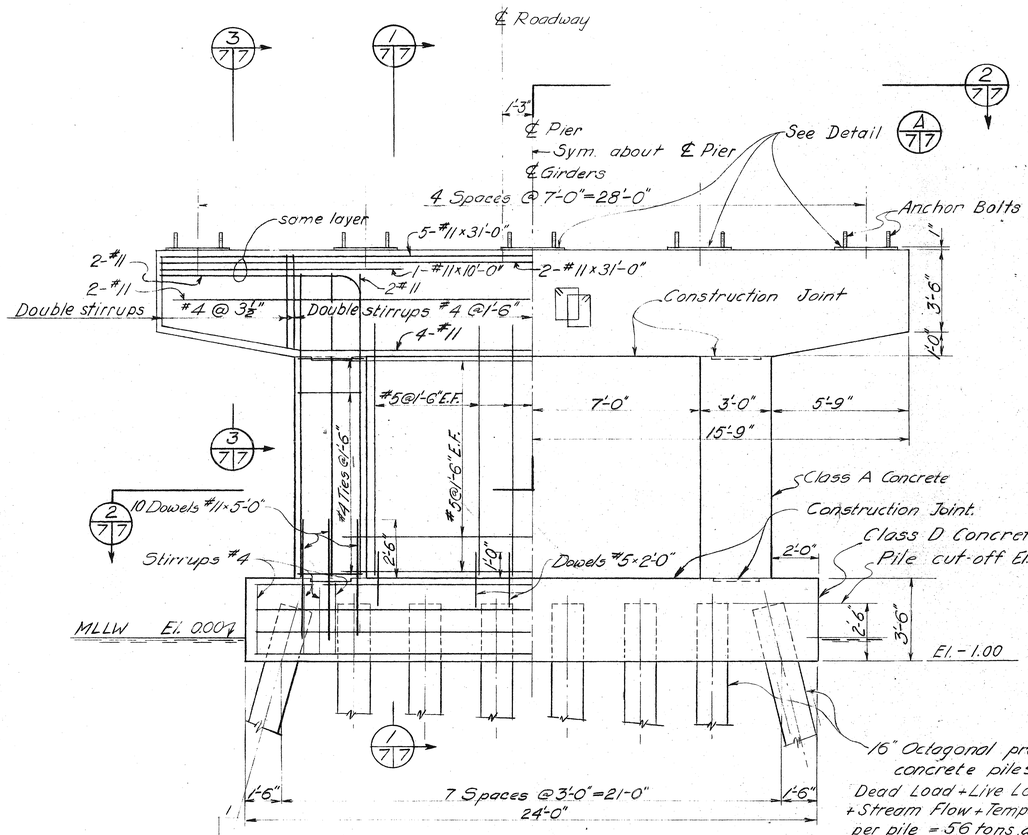
LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

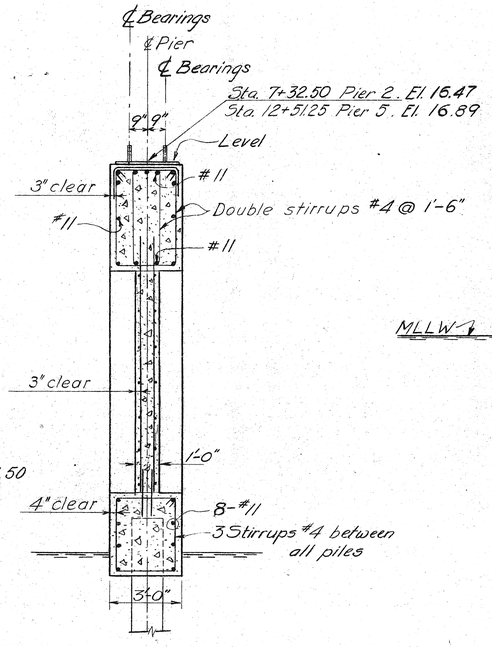
DRAWN BY: P.M.L., A.C.A.
TRACED BY:
CHECKED BY: PEP
SUBMITTED BY: L.O. Helgesen
APPROVAL RECOMMENDED:
CHIEF, PLANNING AND REPORTS BRANCH
APPROVED:
CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED:
LT. COLONEL, CORPS OF ENGINEERS
DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
ABUTMENTS 1 AND 6

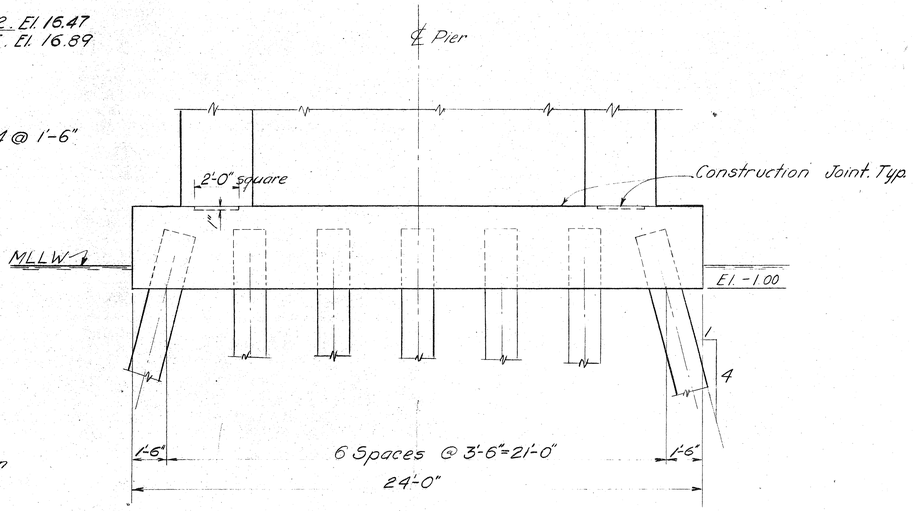
SCALE As Shown
DRAWING NUMBER
AS BUILT
SHEET 6
RH 9/64.6



ELEVATION
Scale: ⅜" = 1'-0"



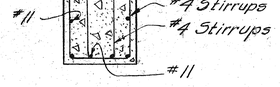
SECTION
Scale: ⅜" = 1'-0"



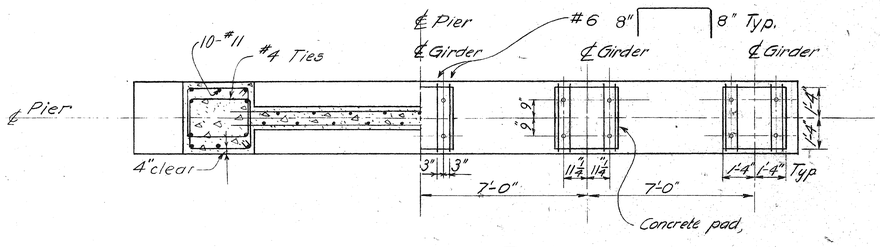
ELEVATION
Scale: ⅜" = 1'-0"

PIER 5

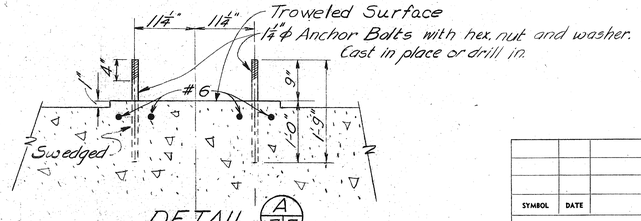
SIMILAR TO PIER 2 EXCEPT FOR NUMBER OF PILES AND TOP ELEVATIONS.



SECTION
Scale: ⅜" = 1'-0"



SECTION
Scale: ⅜" = 1'-0"



DETAIL
BEARING PAD ℄ ANCHOR BOLTS NO. 2
Scale 1" = 1'-0

NOTE:
See Sheet 5 for pile tip elevation.
for bar bending details & cover requirements see Sheet 15

PIER 2

GRAPHIC SCALE 3/8" = 1'-0"
GRAPHIC SCALE 1" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

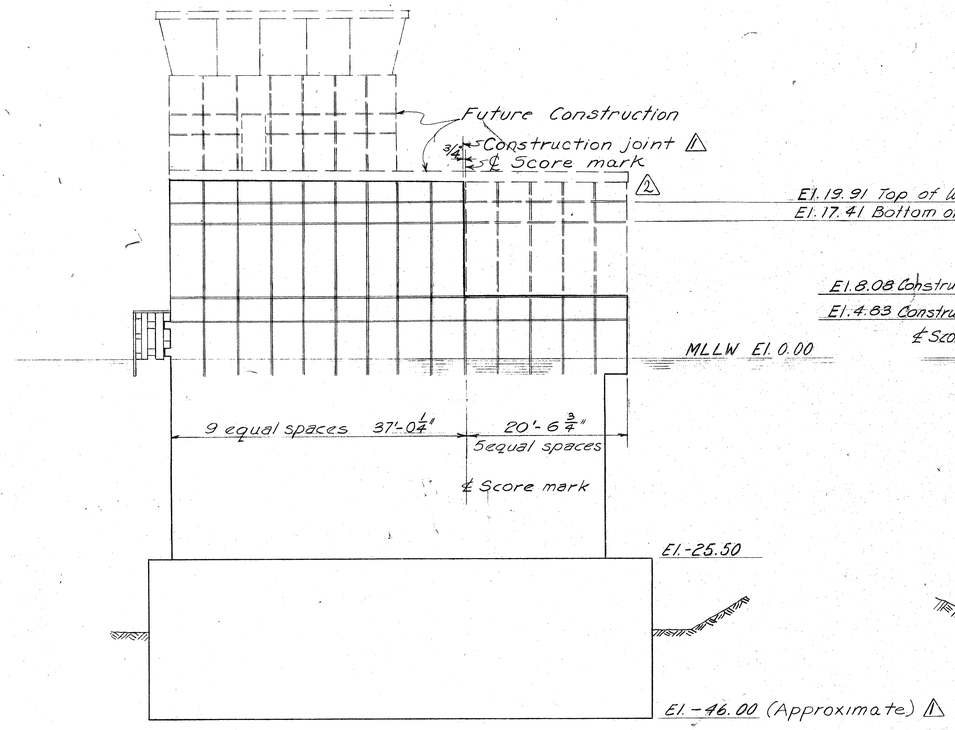
DRAWN BY: P.M.L.
TRACED BY:
CHECKED BY: PEP
SUBMITTED BY: L.O. Nelson

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
PIERS 2 AND 5

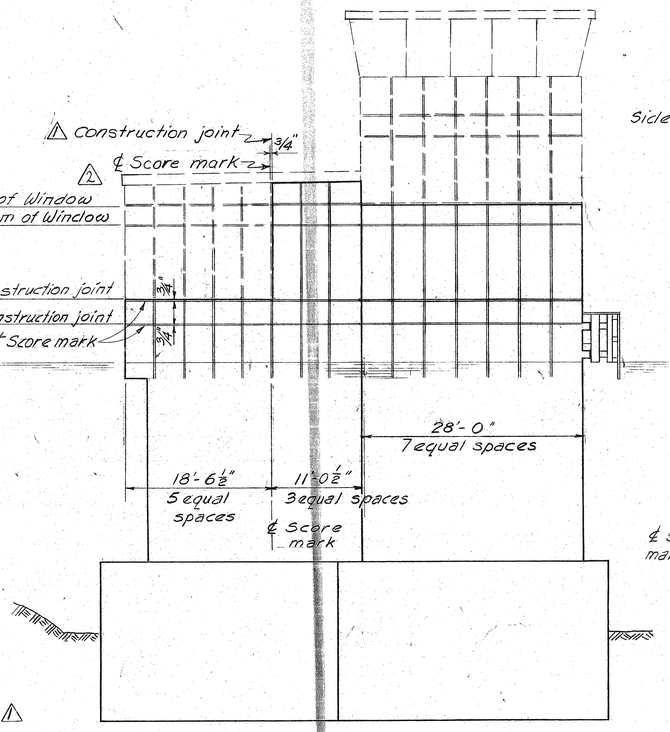
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959

APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

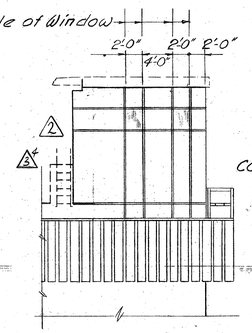
SCALE As shown
DRAWING NUMBER
SHEET 7
AS BUILT
RH 9/64.7



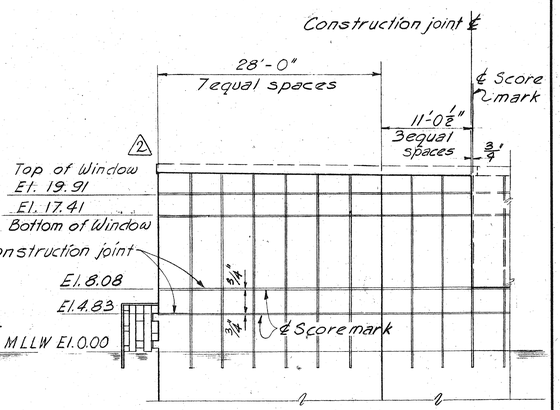
ELEVATION ③



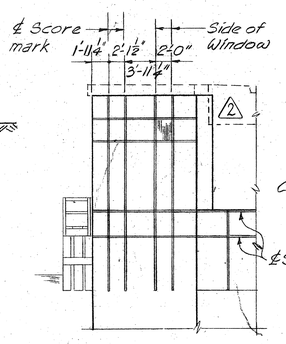
ELEVATION ①



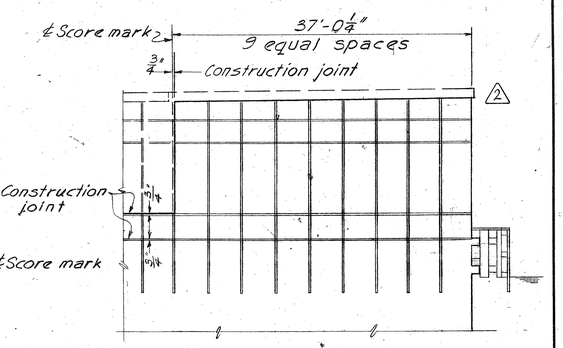
ELEVATION ④



ELEVATION ①



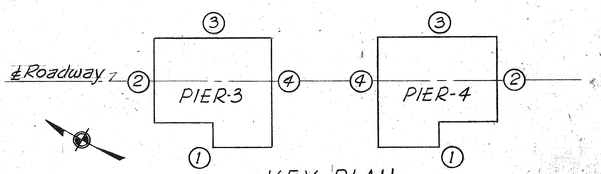
ELEVATION ②



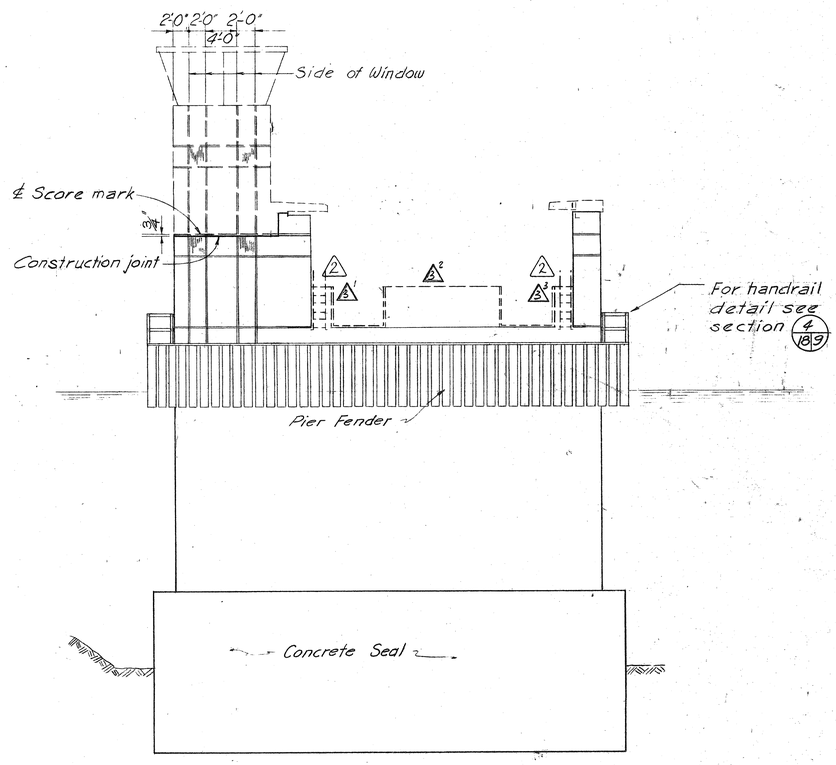
ELEVATION ③

PIER-4

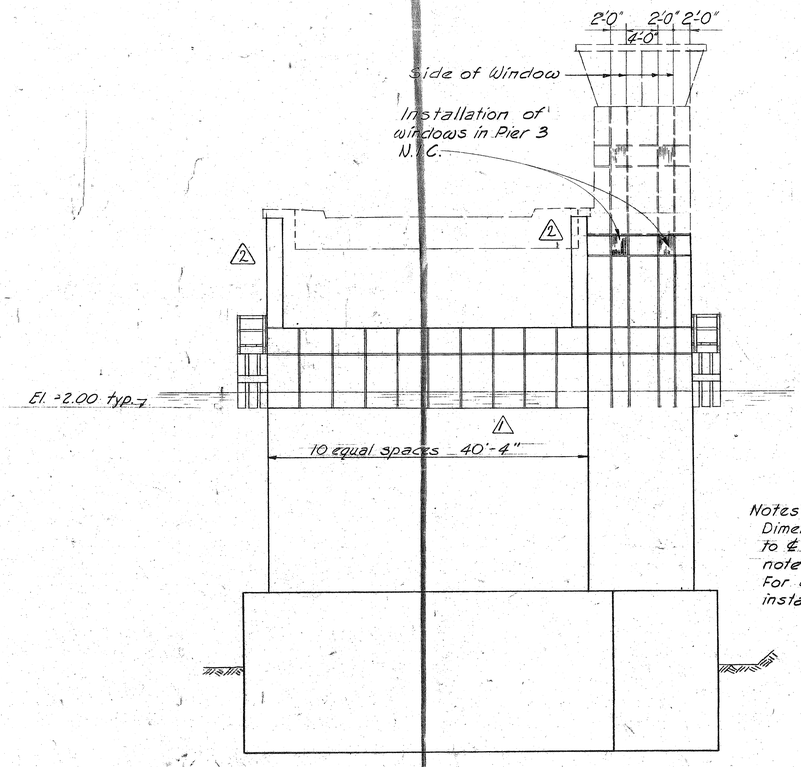
Pier-4 Opposite Hand to Pier-3, Except as Shown.



KEY PLAN
no scale



ELEVATION ④



ELEVATION ②

PIER-3

Notes:
Dimensions of score marks are to ¢ of mark unless otherwise noted
For detail of score marks and installation of windows see sheet 15

GRAPHIC SCALE 1/8" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
3	19 MAY 60	ADDED TSUNAMI PROTECTION WALLS, ELEVATION ④	J.M	S.H.F.	
2	21 AUG 59	REVISED ELEVATIONS FOR PIERS 3 AND 4	RC	CF	
1	15 JUNE 1959	Changed dimension, moved and added note	SHF	RFP	

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

DRAWN BY: C.A & P.H.
TRACED BY:
CHECKED BY: PEP
SUBMITTED BY: L.O. Nelgaard
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
PIERS 3 AND 4
ARCHITECTURAL ELEVATIONS

SCALE 1/8" = 1'-0"
DRAWING NUMBER AS BUILT
SHEET 8
RH 9/64.8

PLAN (2/9/9)

SECTION (1/9/9)

PIER 3

Pier 4 Opposite Hand to Pier 3 except as noted 2

SECTION (4/9/9)

SECTION "A-A" (NOTCH FOR BULL GEAR) SCALE: 3/16" = 1'-0"

SECTION "B-B" SCALE: 3/16" = 1'-0"

SECTION "C-C" (NOTCH FOR ACCESS TO MACHINERY) THE REINFORCEMENT SHOWN SHALL EXTEND ALL ALONG THE ACCESS NOTCHES. SCALE: 3/16" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
5	19 DEC. 1961	REVISED DIMENSION, SECTION 4/9/9 AS BUILT	R.T.		
3	19 MAY 61	RELOCATED EXHAUST OUTLET AND ADDED TSUNAMI PROTECTION WALLS SECTION 1/9/9, SECTION 4/9/9, PLAN 3/9/9	J.M.	S.H.F.	
4	19 DEC 60	ADDED SECTIONS "A-A" "B-B" AND "C-C" ALSO DENOTED SECTIONS AND ELEVATIONS IN PLAN 2/9/9	RC		
1	6 OCT 59	ADDED PIPE INSERT IN PLAN 3/9/9	RC		
2	21 AUG 59	REVISED PLAN 3/9/9, SECTION 4/9/9 AND SECTION 1/9/9	RC		
1	15 JUNE 1959	Relocated dimension arrowhead	SHF		

REVISIONS

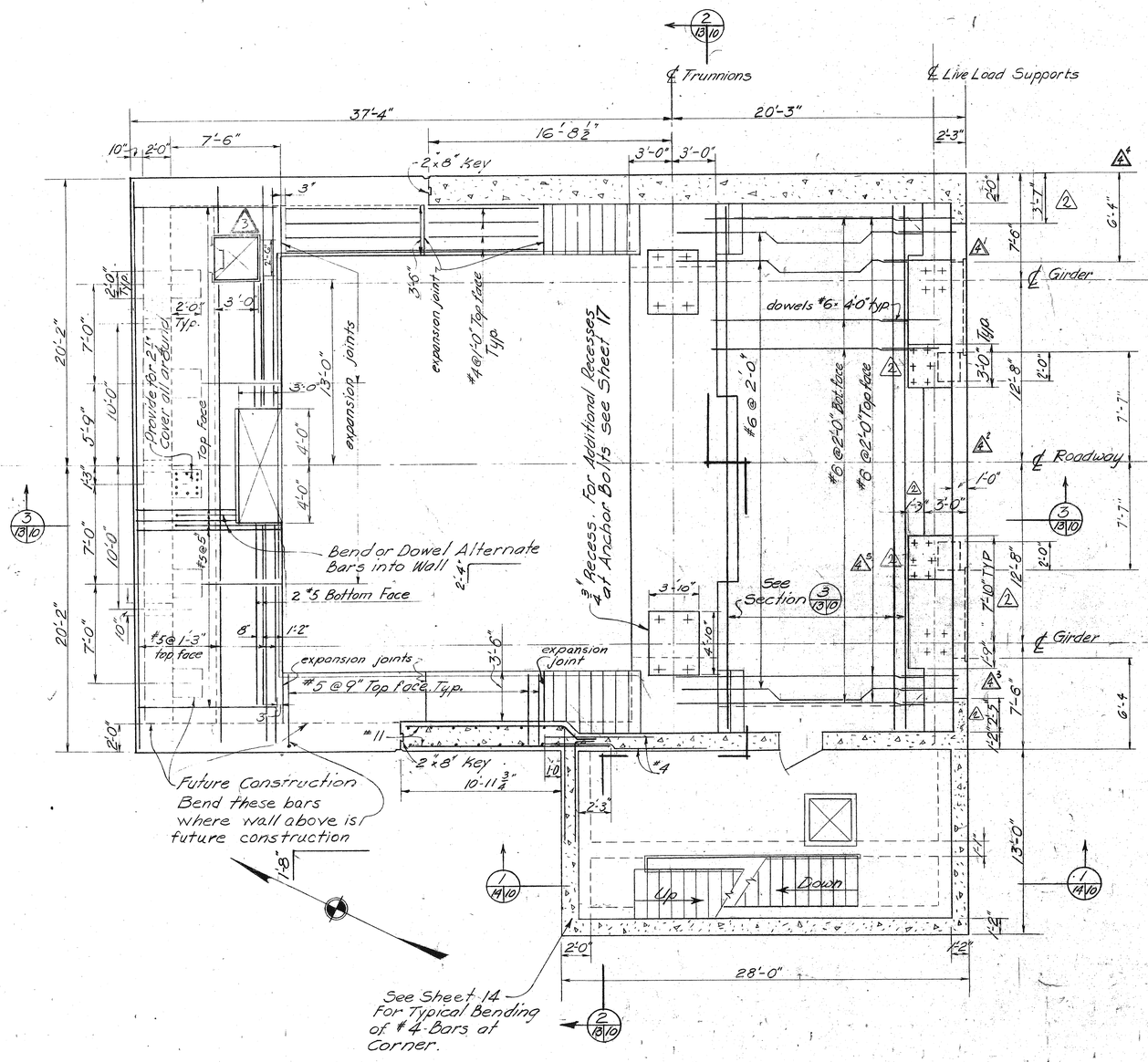
LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS — HONOLULU — SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS HONOLULU, T.H.

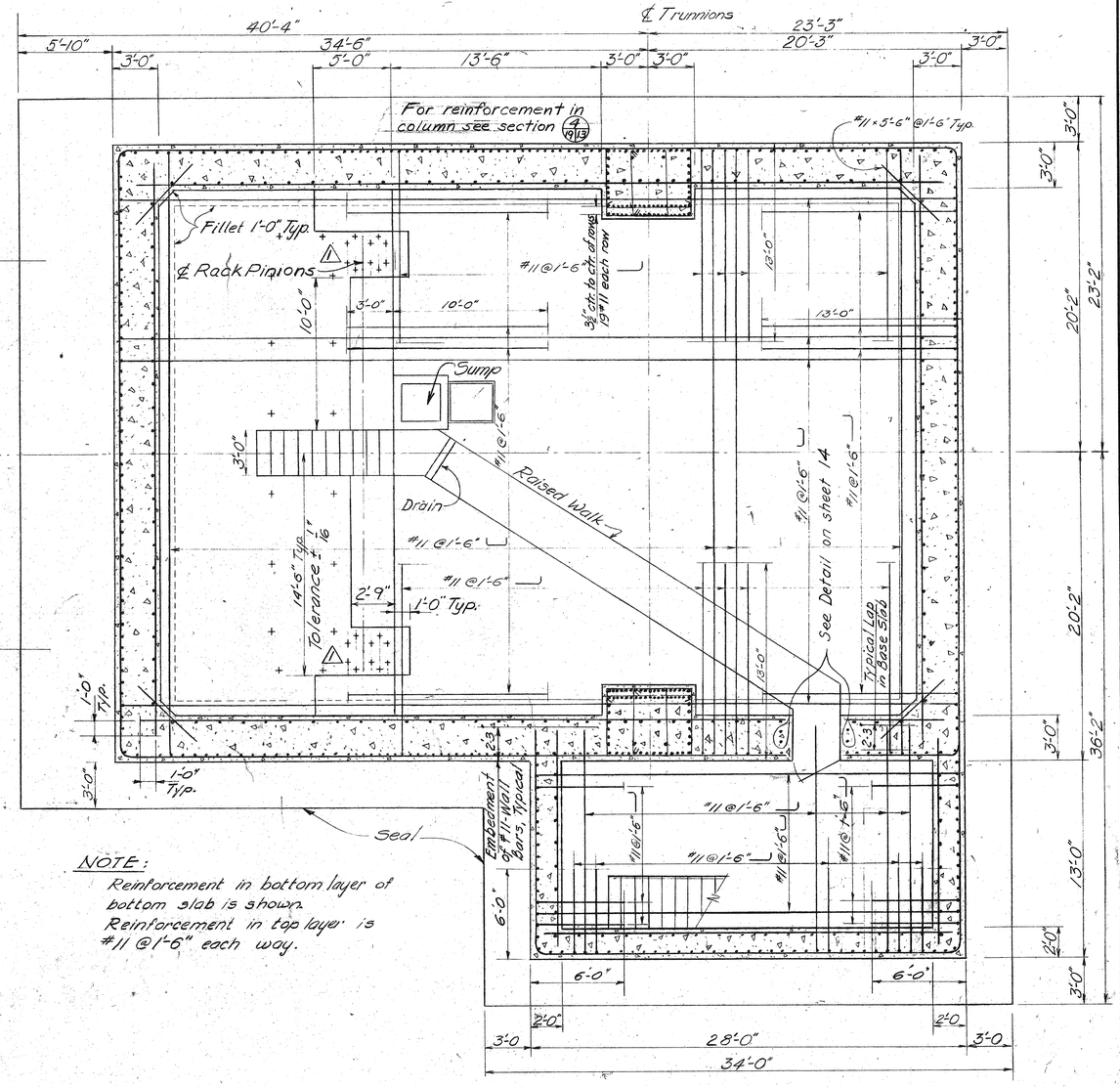
DRAWN BY: P.H.
TRACED BY:
CHECKED BY: R.K.O.
SUBMITTED BY: L.O. Helgeson
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER
DATE: 20 MAY 1959

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
PIER 3
ARCHITECTURAL PLANS AND SECTIONS

SCALE 3/16"=1'-0"
DRAWING NUMBER AS BUILT
SHEET 9 RH 9/64.9



PLAN 2/10/13



PLAN 1/10/13

NOTE:
Reinforcement in bottom layer of bottom slab is shown. Reinforcement in top layer is #11 @1'-6" each way.

PIER-3

Pier 4 is opposite hand to Pier 3

NOTES:

See Sheet 9 for location of expansion joints in the walk.
For bar bending details & cover requirements see Sheet 15
Keys at construction joints are shown only in sectional views.
See Sheet for details of Tsunami protection walls.

GRAPHIC SCALE ¼" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
4	17MAY'62	ADDED TSUNAMI WALL AND DIMENSIONS TO PLAN 2/10/13	J.M.	S.H.F.	
3	21OCT'59	ADDED DIMENSION IN PLAN 2/10/13	RC		
2	21AUG'59	REVISED PLAN 2/10/13	RC		
1	15JAN'59	Anchor bolts AB-4 and-5 location shown	SHF	F.F.	

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

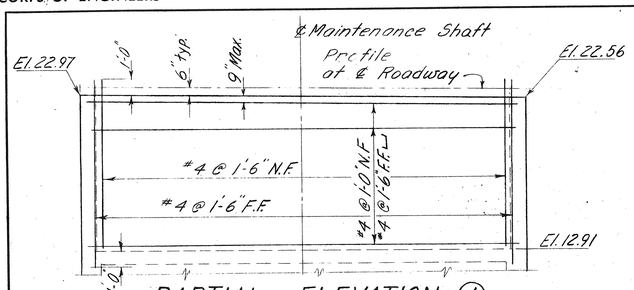
DRAWN BY: P.M.L & A.J.G
TRACED BY:
CHECKED BY: EKO
SUBMITTED BY: R.D. Wilson
APPROVAL RECOMMENDED: R. Wilson, CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: W. J. Mueller, CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: M. B. Hall, LT. COLONEL, CORPS OF ENGINEERS, DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
PIER 3. PLANS

SCALE ¼" = 1'-0"
DRAWING NUMBER AS BUILT
SHEET 10
RH 9/64.10

CORPS OF ENGINEERS

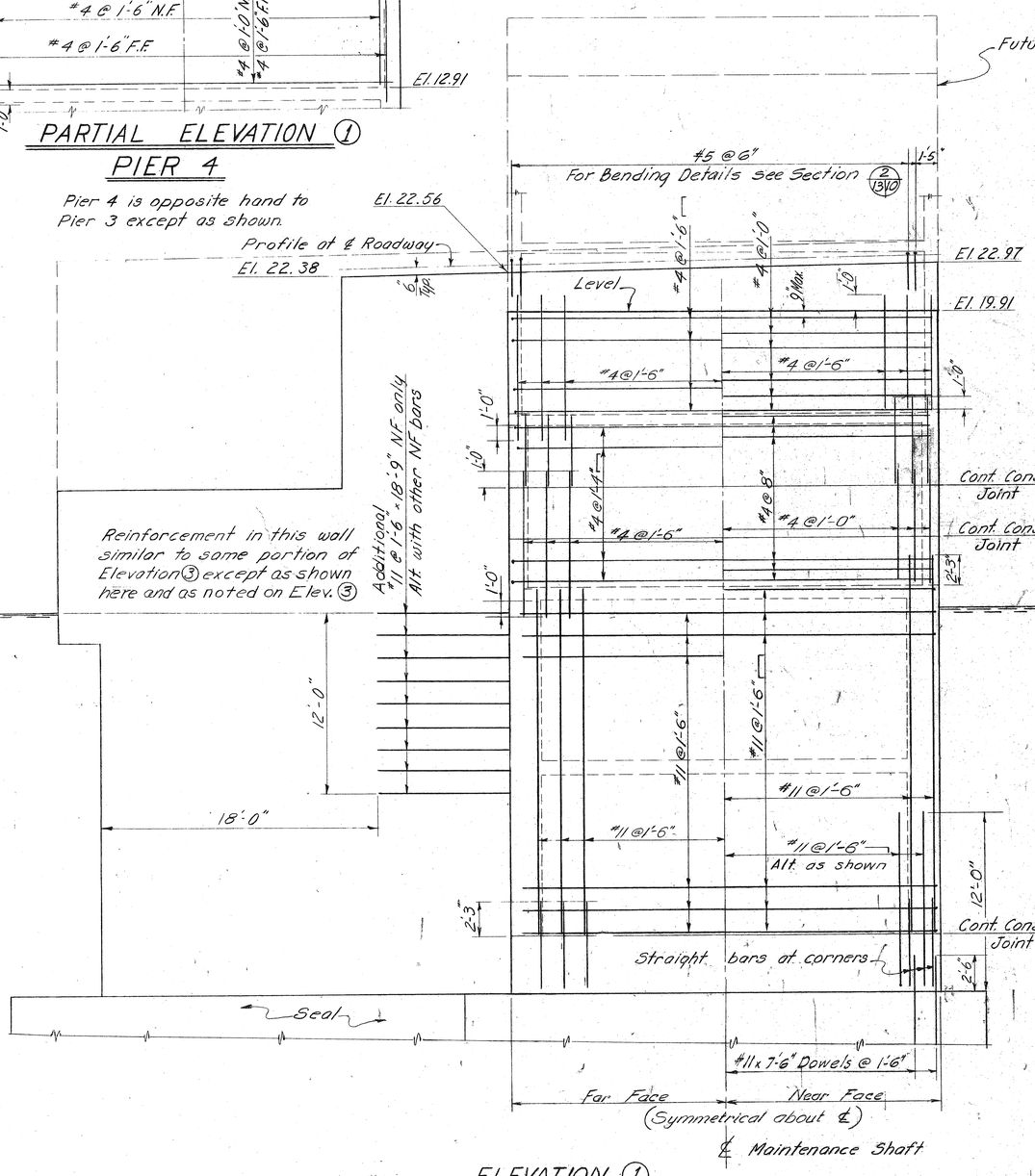
U. S. ARMY



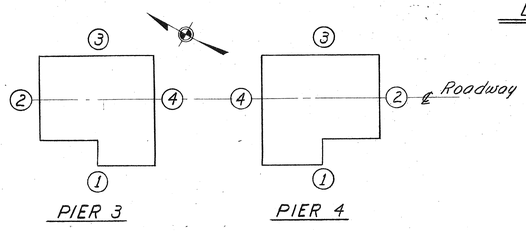
PARTIAL ELEVATION (1)

PIER 4

Pier 4 is opposite hand to Pier 3 except as shown.



ELEVATION (1)



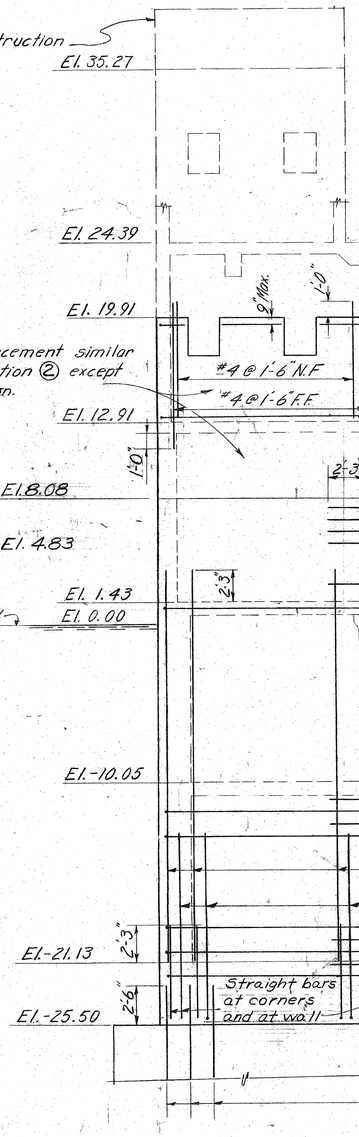
KEY PLAN

No Scale

PIER 3

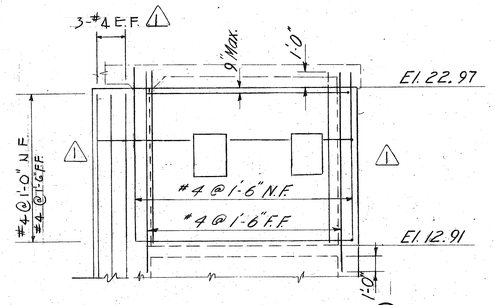
NOTE:

For bar bending details and cover requirements see Sheet 15.



ELEVATION (4)

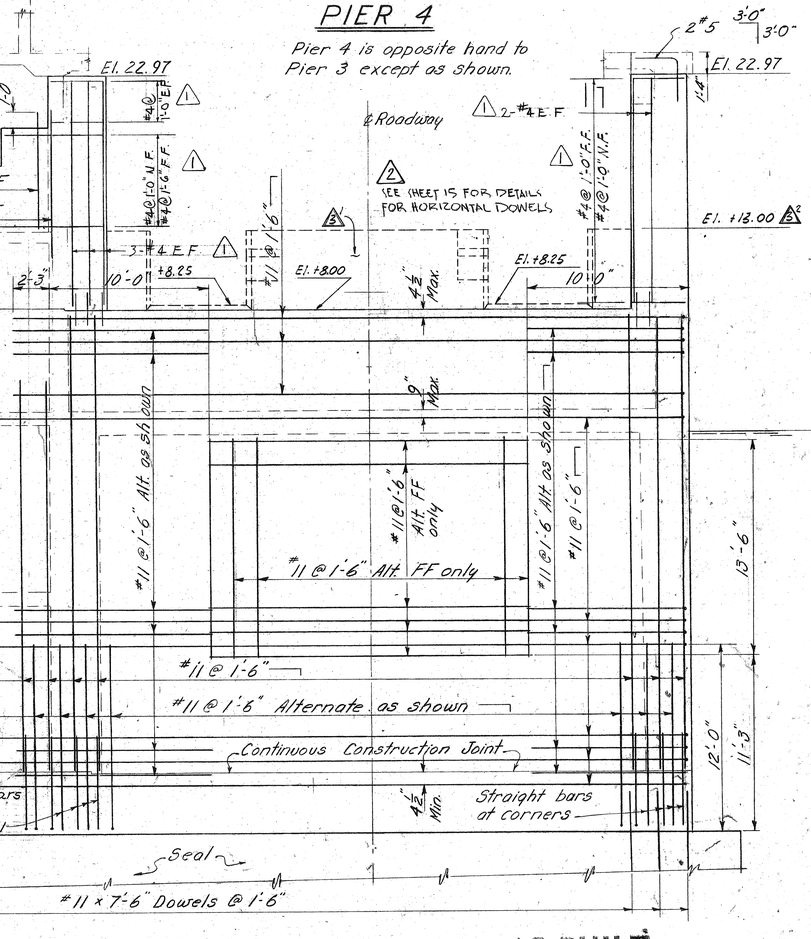
Reinforcement shown is N.F. except as noted.
F.F. reinforcement is #11 @ 1'-6 E.W. except for additional bars shown.



PARTIAL ELEVATION (4)

PIER 4

Pier 4 is opposite hand to Pier 3 except as shown.



GRAPHIC SCALE 1/4" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP.
		REVISIONS			
3	9 MAY 61	ADDED TSUNAMI WALLS AND ELEVATIONS	J.M.	S.H.F.	
2	23 MAR 60	ADDED NOTE TO ELEVATION (4)	R.C.	C.F.	
1	21 AUG 59	REVISED PARTIAL ELEV. 4 & ELEV. 4, ADDED STEEL	R.C.	C.F.	

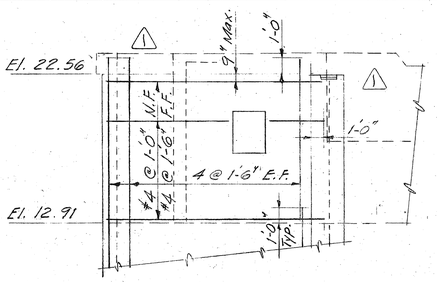
LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

DRAWN BY: A.J.G. & C.A.
TRACED BY:
CHECKED BY: E.M.D.
SUBMITTED BY: L.O. Nelson
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: LT. COLONEL, CORPS OF ENGINEERS, DISTRICT ENGINEER

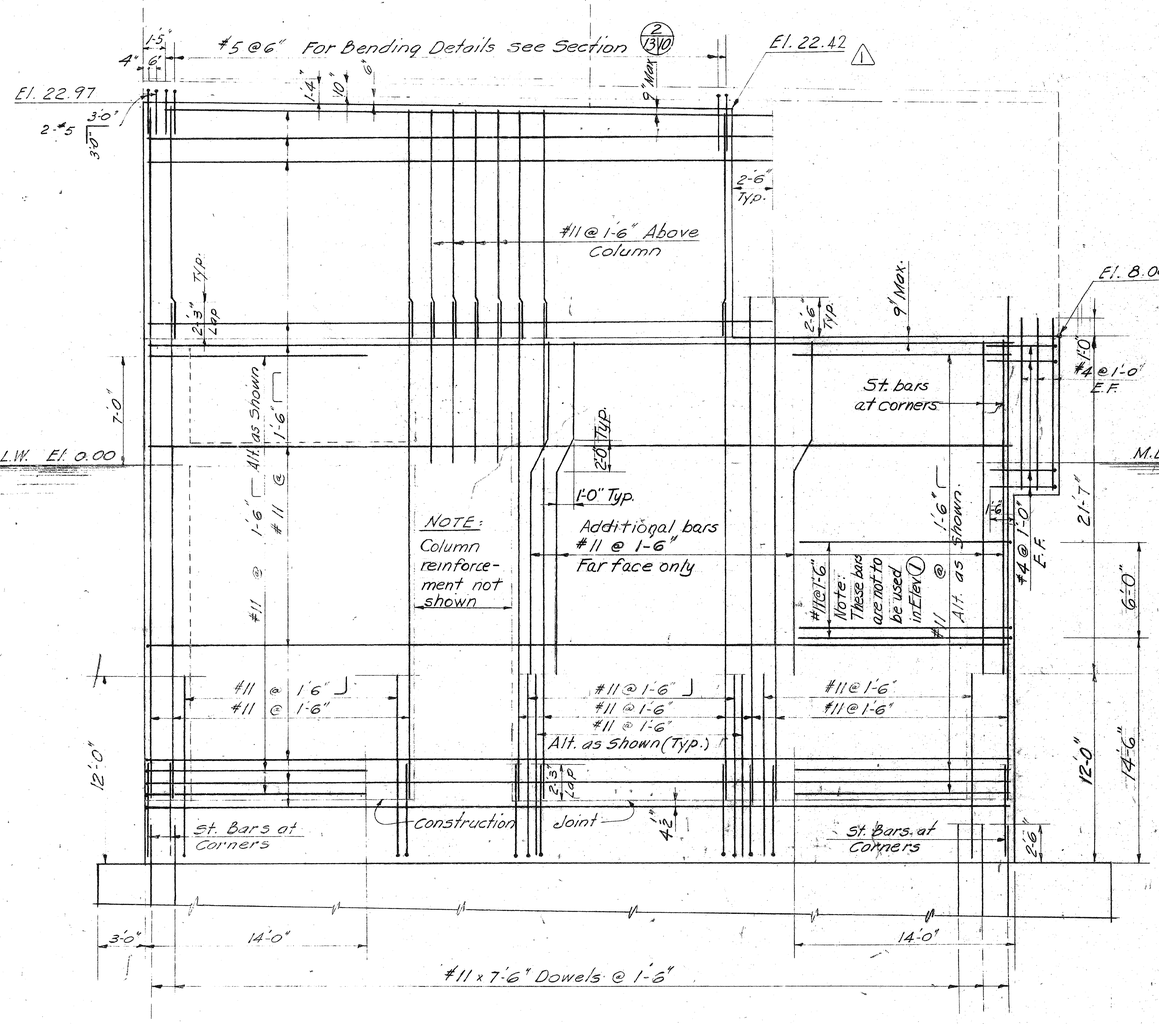
HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
PIER 3 ELEVATIONS
WEST AND SOUTH WALLS

SCALE 1/4" = 1'-0"
DRAWING NUMBER AS-BUILT
SHEET 11 RH 9/64.11



PARTIAL PIER-4

Pier 4 is Opposite Hand to Pier 3 Except as Shown.

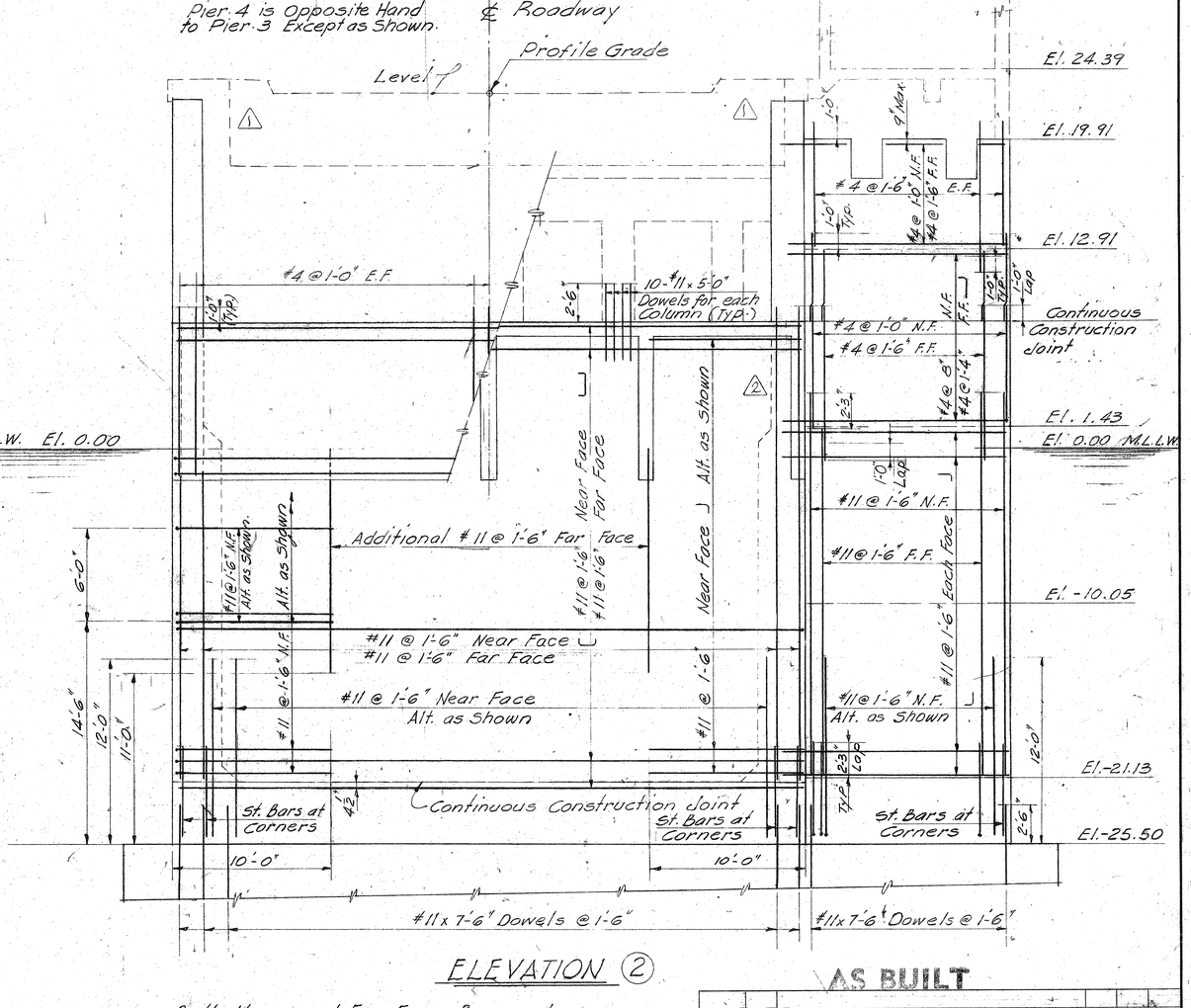


ELEVATION 3

Near Face Reinforcement shown.
Far Face Reinforcement to be #11-Bars @ 1'-6" E.W., With Additional #11-Bars as Shown.

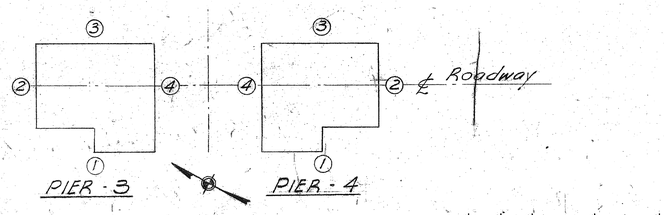
NOTE:
For Bar Bending Details and Cover Requirements see Sheet 15.

PIER - 3



ELEVATION 2

Both Near and Far Face Bars shown.



KEY PLAN
No Scale

GRAPHIC SCALE 1/4" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
2	6OCT59	ADDED HIDDEN LINE IN ELEVATION 2	RC	CE	
1	21AUG59	REVISED ELEVATIONS 2 AND 3 & PARTIAL PIER 4	RC	CE	

"REVISIONS

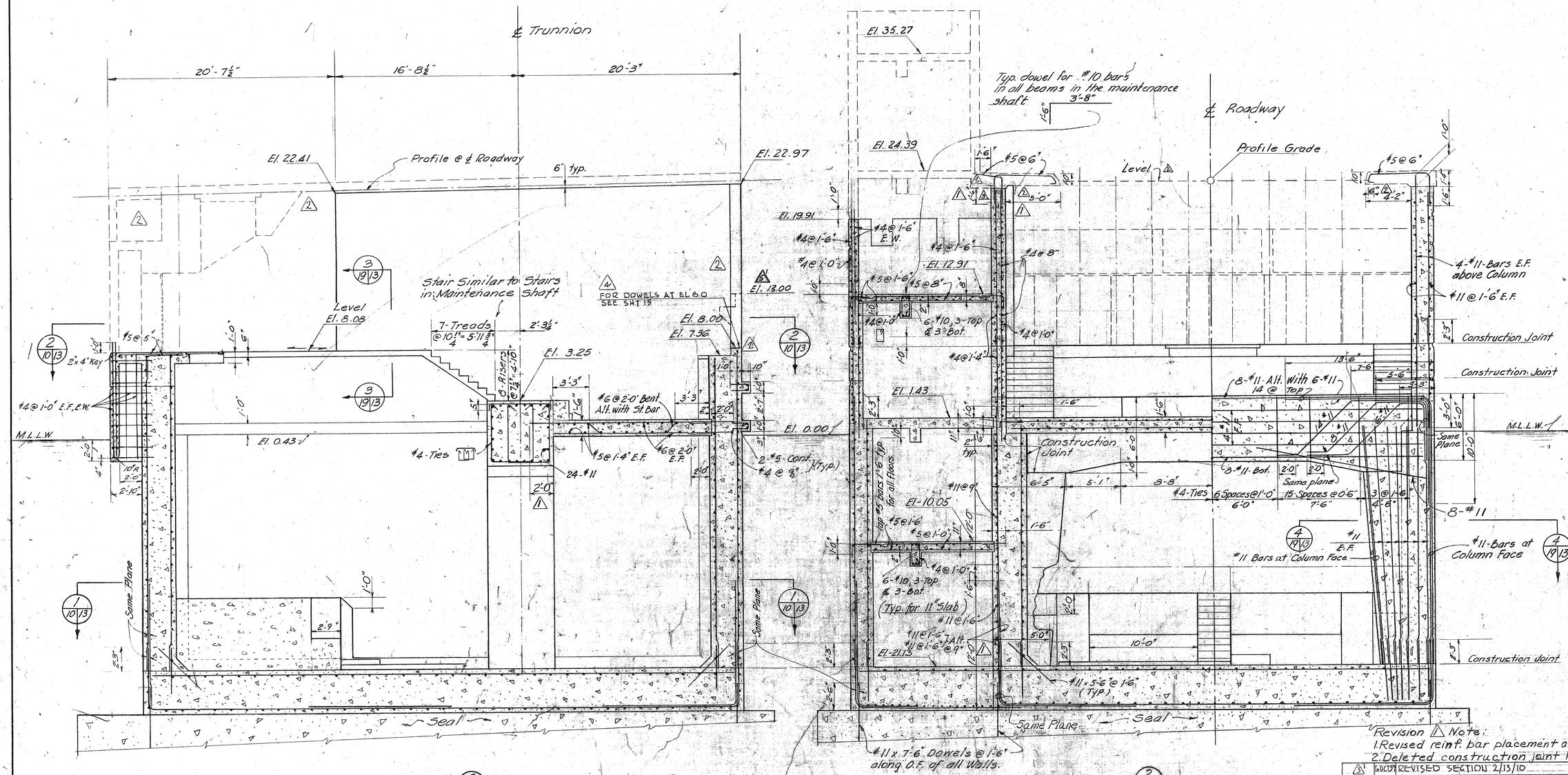
LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

DRAWN BY: A.J.G.
TRACED BY:
CHECKED BY: EKO
SUBMITTED BY: L.O. Halgrimson
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
PIER 3 ELEVATIONS
EAST AND NORTH WALLS

DATE 20 MAY 1959
SCALE 1/4" = 1'-0"
DRAWING NUMBER AS-BUILT
SHEET 12
RH 9/64/2



SECTION 3/13/10

SECTION 2/13/10

NOTE: △1
For bar bending details and cover requirements, see Sheet 15.

PIER 3

Pier 4 is opposite hand to Pier 3 except for maintenance shaft above El. 12.91 as shown on Sheets 11 and 12.

Revision △ Note:
1. Revised reinf. bar placement at base of wall.
2. Deleted construction joint Key requirement

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
△3	6 OCT 59	REVISED SECTION 2/13/10	RC	CK	PML
△2	21 AUG 59	REVISED SECTIONS 3/13/10 AND 2/13/10	RC	CK	PML
△1	15 JUNE 1959	See revision note above	SHF	FE	PML

REVISIONS

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
△2	13 MAY 60	ADDED WALLS IN SECTION 3/13/10	J.M.	S.H.F.	PML
△1	13 JUNE 1960	ADDED NOTE IN SECTION 3/13/10	RC	CK	PML

GRAPHIC SCALE 1/4" = 1'-0"

LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

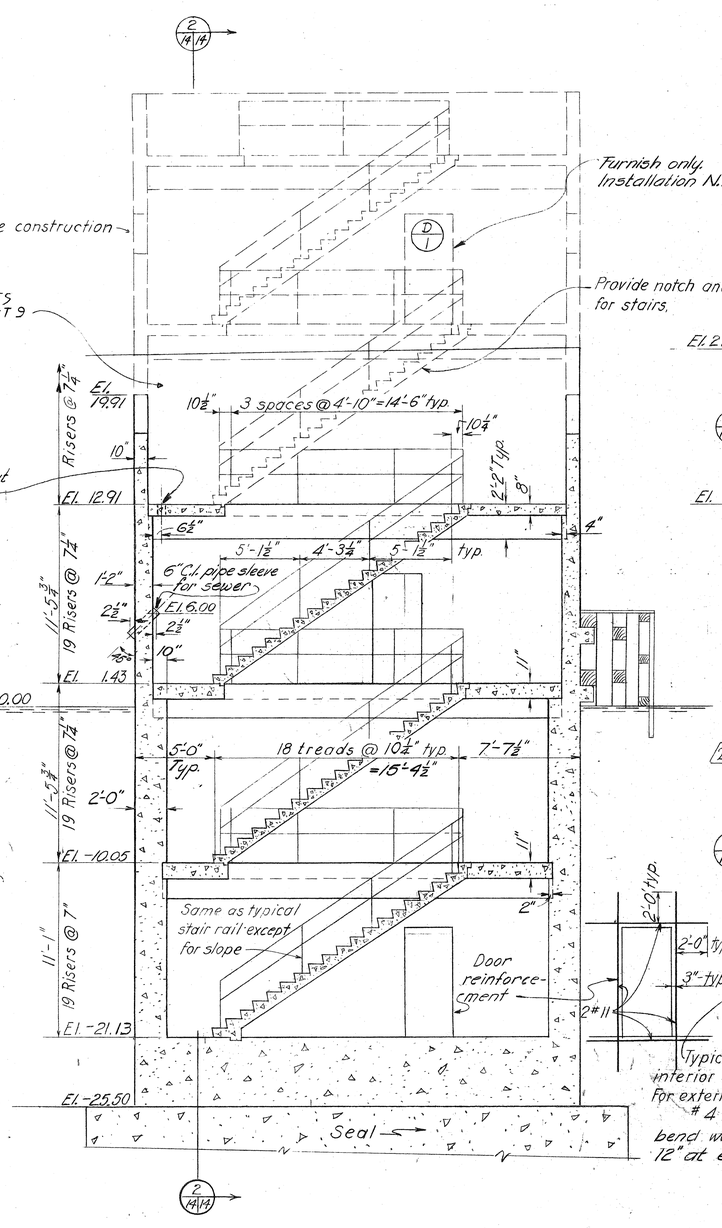
U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

DRAWN BY: A.J.G. & PML
TRACED BY:
CHECKED BY: RKO
SUBMITTED BY: L.O. Nelson

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
PIER 3 SECTIONS

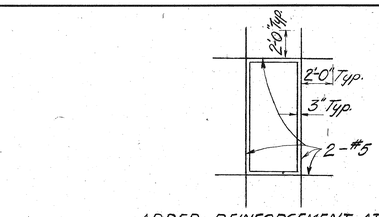
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

SCALE 1/4" = 1'-0"
DRAWING NUMBER AS BUILT
SHEET 13
RH 9/64.13

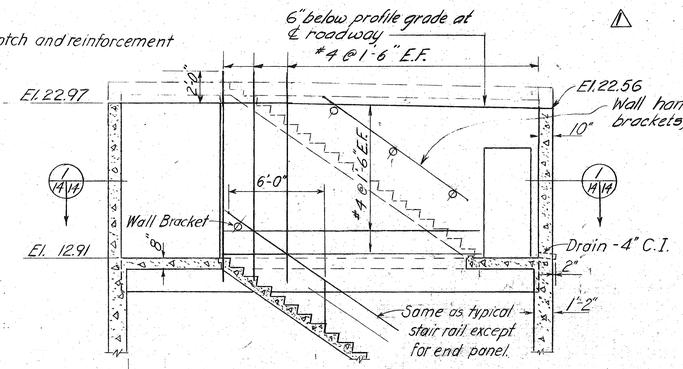


SECTION (2/14/14)

PIER 3

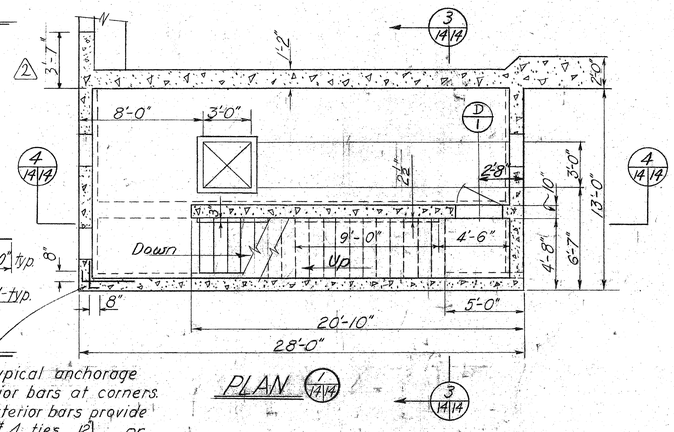


ADDED REINFORCEMENT AT DOORS.
Provide at all doors not otherwise noted.



SECTION (4/14/14)

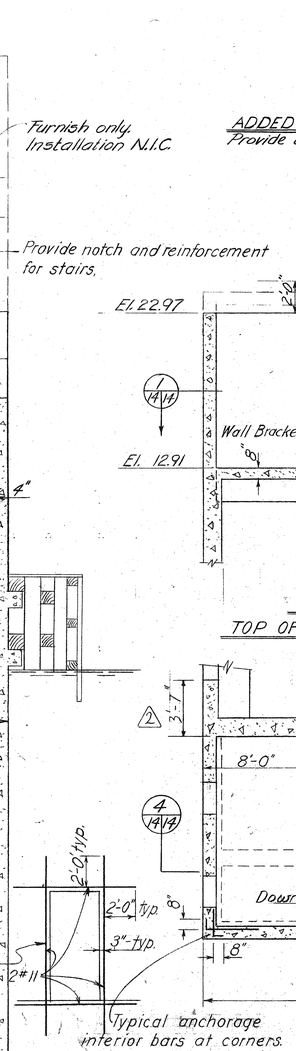
TOP OF MAINTENANCE SHAFT



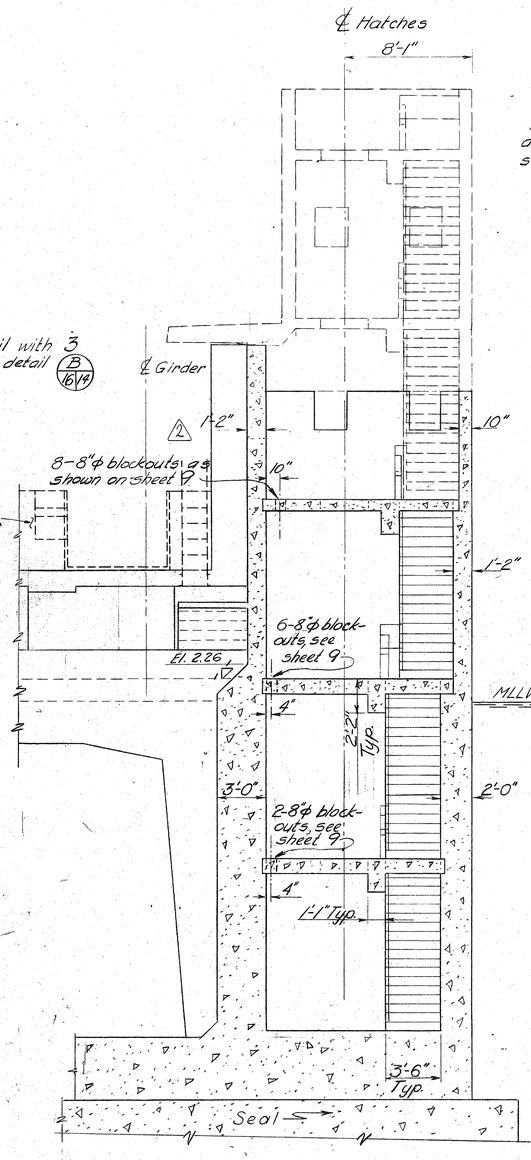
PLAN (1/14/14)

PIER 4

Pier 4 opposite hand to pier 3 except as shown

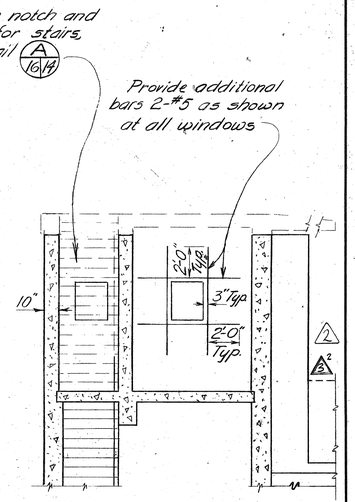


Typical anchorage interior bars at corners. For exterior bars provide #4 ties 12" × 12" or bend wall bars 12" at end.



SECTION (2/14/14)

PIER 3



SECTION (3/14/14)

PIER 4

Pier 4 opposite hand to pier 3 except as shown.

Provide floor blockouts as shown for corresponding levels of Pier 3, sections (2/14/14) and (2/9/9)

NOTES:

6" blockout and 6" C.I. pipe sleeve shown in section (1/14/10) are not required in pier 4.

For bar bending details and cover requirements see sheet 15.

MAINTENANCE SHAFT

GRAPHIC SCALE 1/4" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
		REVISIONS			
3	9MAY'60	ADDED TSUNAMI PROTECTION WALL, SECTIONS 2/14/14 & 3/14/14	J.M.	S.H.F.	
2	21AUG 1959	ADDED NOTATION FOR SECTION 1/14/10, REVISED PLAN 1/14/14 AND SECTIONS 2/14/14 AND 3/14/10	RC	CF	
1	15 JUNE 1959	Deleted construction Key detail	S.H.F.	EF	

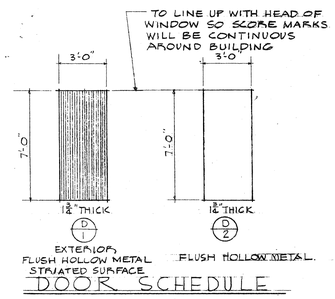
LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS, HONOLULU, SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU, CORPS OF ENGINEERS, HONOLULU, T.H.

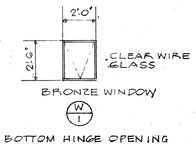
DRAWN BY: P.M.L.
TRACED BY:
CHECKED BY: PEP
SUBMITTED BY:
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: LT. COLONEL, CORPS OF ENGINEERS, DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
MAINTENANCE SHAFT

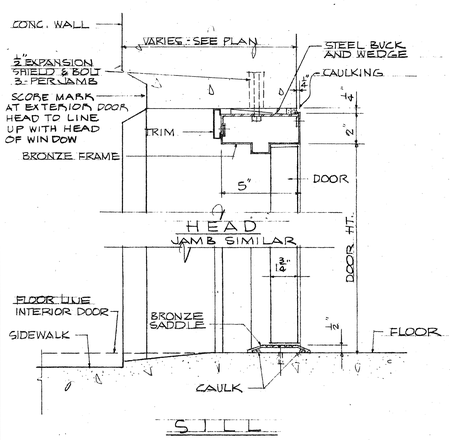
SCALE 1/4" = 1'-0"
DRAWING NUMBER AS BUILT
SHEET 14 RH 9/64.14



DOOR SCHEDULE

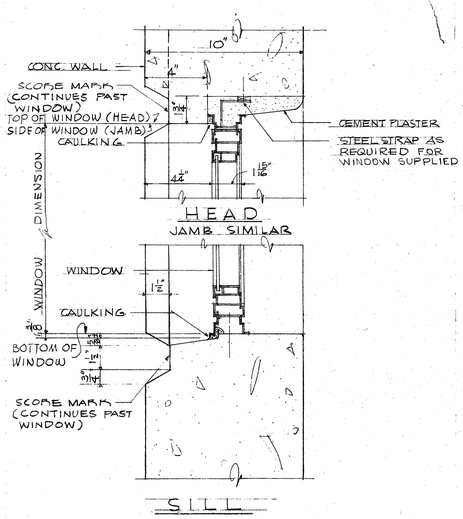


WINDOW SCHEDULE



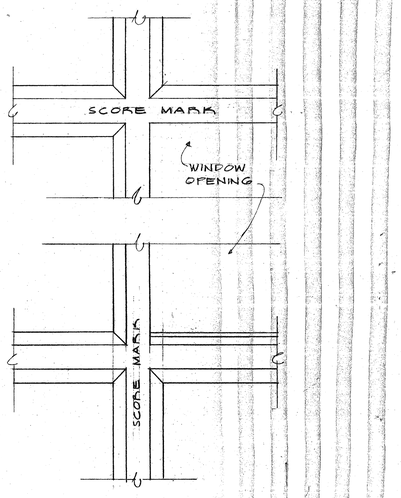
TYPICAL DOOR JAMB DETAIL

SCALE 3"=1'-0"



WINDOW DETAIL

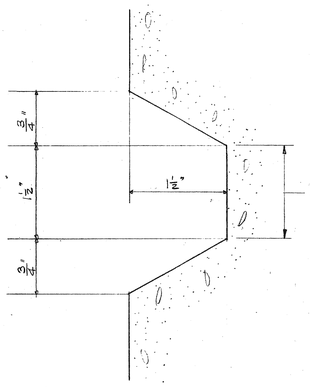
SCALE 3"=1'-0"



DETAIL OF SCORE MARK AT WINDOW & DOOR OPENINGS

SCALE: 3"=1'-0"

NOTE: SEE SHEET 8 FOR LOCATION OF WINDOWS AND SCORE MARKS



TYPICAL SCORE MARK

SCALE 12" = 1'-0

TYPICAL REINFORCEMENT DETAILS

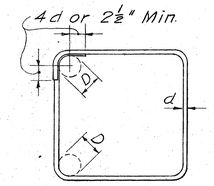
Cover over reinforcement, unless otherwise noted, shall be as follows:

Abutments 1 and 6:
- 3" all faces exposed to earth or backfill
- 2" all other faces

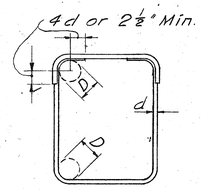
Piers 2 and 5:
- 4" pile cap and columns
- 3" walls and beam

Piers 3 and 4:
- For 2' and 3' thick walls - 4" exterior face, 3" interior face
- For other walls - 3" exterior face, 2" interior face
- For base slab - 4" top and bottom
- For other slabs - 1" top not exposed, 2" top exposed, 2" bottom

Minimum cover shall be 2" at score marks.
Splices are not shown on the drawings.
All laps shall be a minimum of 20 bar diameters.

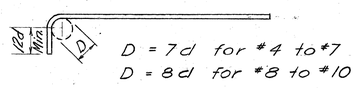


COLUMN TIE



STIRRUP

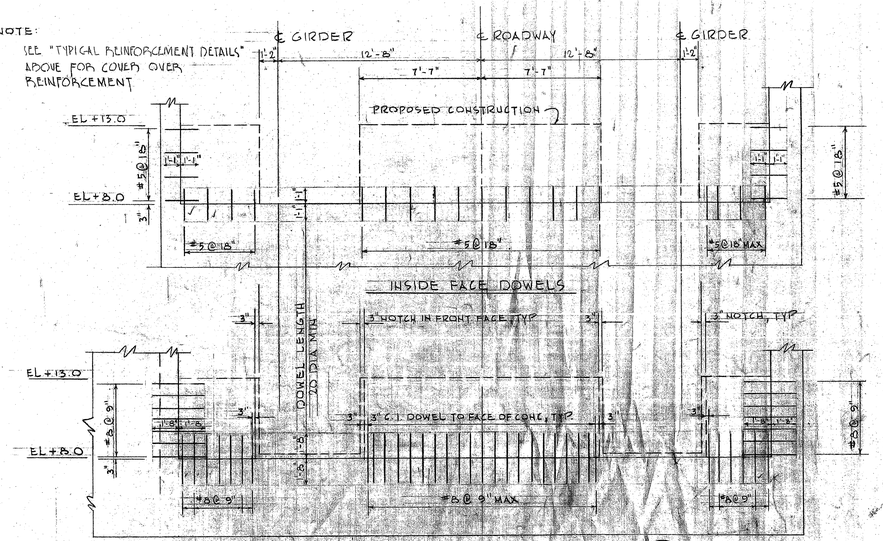
D = 6d for #4 to #7



D = 7d for #4 to #7
D = 8d for #8 to #10

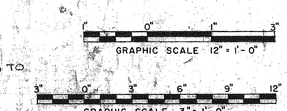
MAIN BAR BEND

NOTE: SEE "TYPICAL REINFORCEMENT DETAILS" ABOVE FOR COVER OVER REINFORCEMENT



NOTE:
- PIER 3: HORIZONTAL REINFORCING DOWELS PLACED DURING SUBSTRUCTURE
- PIER 4: ALL REINFORCING DOWELS PLACED DURING SUBSTRUCTURE

NOTES:
VERTICAL BARS TO BE PLACED OUTSIDE HORIZ. BARS
VERTICAL AND HORIZONTAL DOWELS TO BE PLACED IN PIER 4, AND ONLY HORIZONTAL DOWELS IN PIER 3



AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
2	8 DEC 1960	ADDED NOTE TO PIER 3 & 4, AS BUILT	R.T.	WP	
1	28 MAR 1960	ADDED DETAIL A/15/13	R.C.	CR	

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS, HONOLULU, SAN FRANCISCO

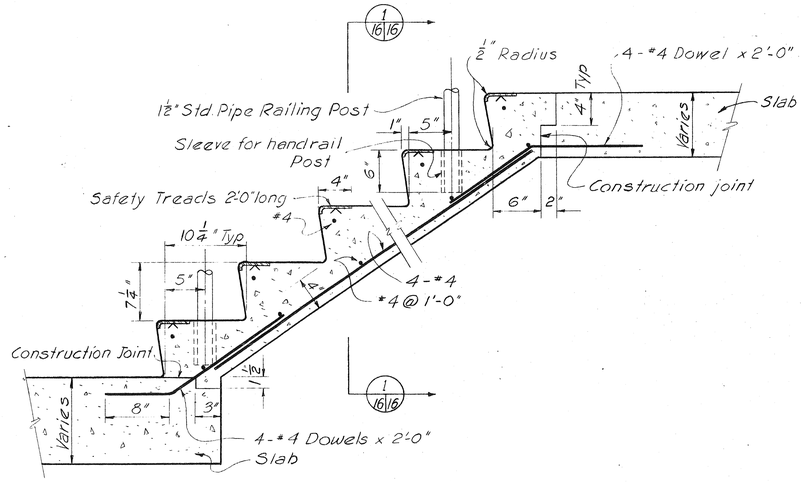
U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS, HONOLULU, T.H.

DRAWN BY: P-H
TRACED BY:
CHECKED BY: PEP
SUBMITTED BY: L.G. Nelson
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: LT. COLONEL, CORPS OF ENGINEERS, DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
ARCHITECTURAL DETAILS

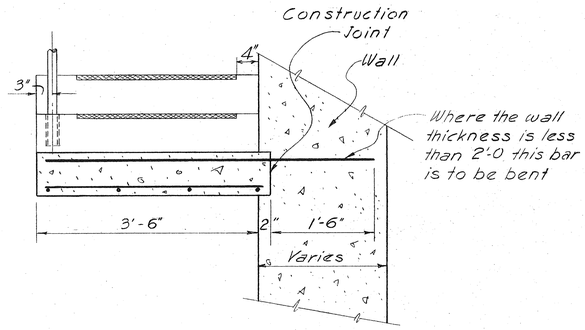
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959

SCALE AS SHOWN
DRAWING NUMBER AS BUILT
SHEET 15
RH 9/64.15



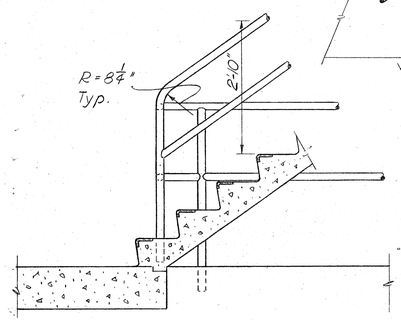
TYPICAL STAIRWAY IN MAINTENANCE SHAFT

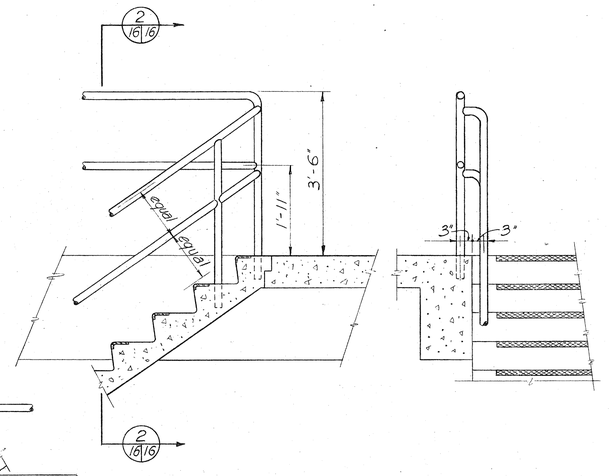
Scale : 1½" = 1'-0



SECTION 1/16/16

Scale : 1" = 1'-0

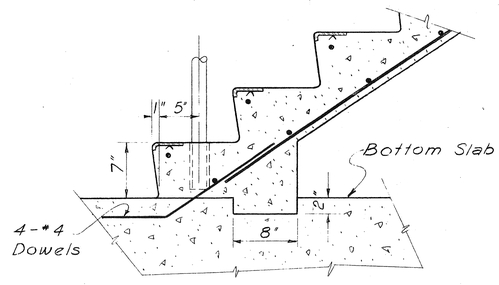




STAIR RAILING SECTION 2/16/16

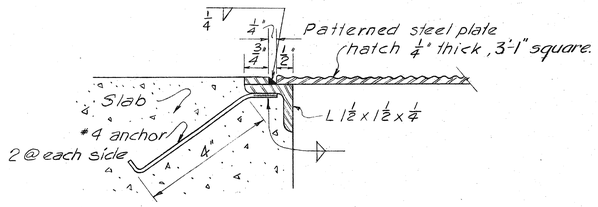
Scale : ¾" = 1'-0

All railing to be 1½" Std. Pipe railing & 6" long sleeves cast in place in concrete.
Railing is welded together by 3/16" weld.



STAIRWAY AT THE BOTTOM SLAB IN MAINTENANCE SHAFT

Scale : 1½" = 1'-0

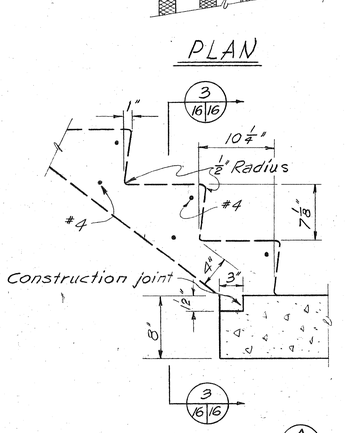


NOTE: Each hatch to have 2'-1" ϕ holes for lifting

DETAIL M/16/9

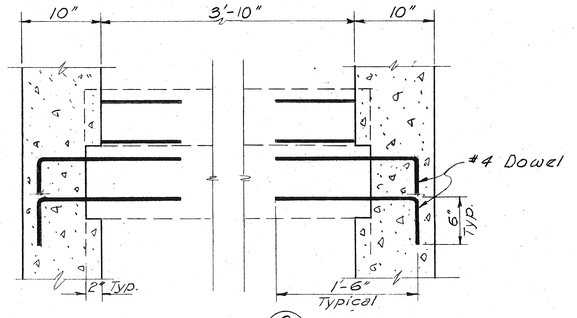
Scale : ½ Full Size

SECTION THROUGH FRAME & HATCH IN MAINTENANCE SHAFT



DETAIL A/16/14

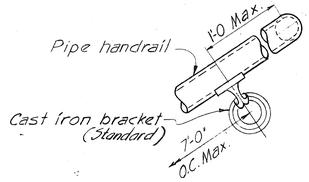
Scale : 1½" = 1'-0"



SECTION 3/16/16

Scale : 1½" = 1'-0

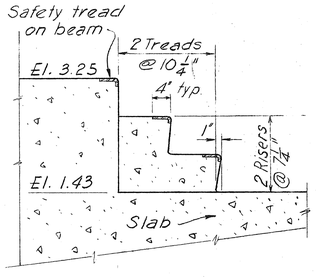
Note: For bar bending details & cover requirements see Sheet 15



DETAIL B/16/14

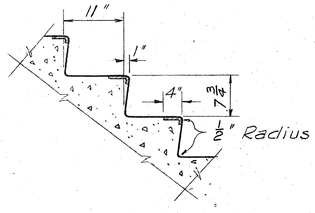
Scale : 3" = 1'-0

WALL HANDRAIL & BRACKET FOR CONCRETE WALL



DETAIL H/16/9

Scale : 1" = 1'-0"



DETAIL G/16/9 STAIRS IN MACHINERY PLATFORM

Scale : 1" = 1'-0

GRAPHIC SCALE 1/2" = 1'-0"

GRAPHIC SCALE 3/4" = 1'-0"

GRAPHIC SCALE 1" = 1'-0"

GRAPHIC SCALE 1½" = 1'-0"

GRAPHIC SCALE 3" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
		REVISIONS			

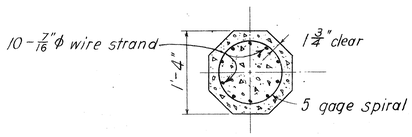
LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

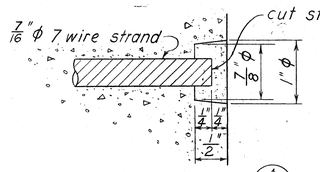
DRAWN BY: P.H.
TRACED BY:
CHECKED BY: PML
SUBMITTED BY: L.O. Wolgamott
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
STAIRS AND RAILING DETAILS

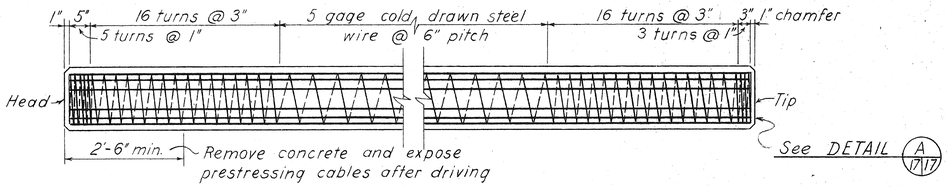
SCALE AS SHOWN
DRAWING NUMBER AS BUILT
SHEET 16
RH 9/64.16



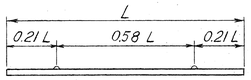
PILE SECTION
Scale: 1" = 1'-0"



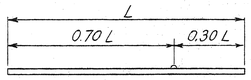
DETAIL A 17|17
Full Scale
1" = 1"



NOTES: Prestress in concrete after losses = 700 psi
Total prestressing force after losses = 150,000 lbs.

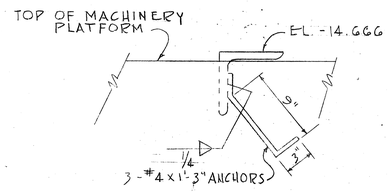


TWO POINT PICKUP

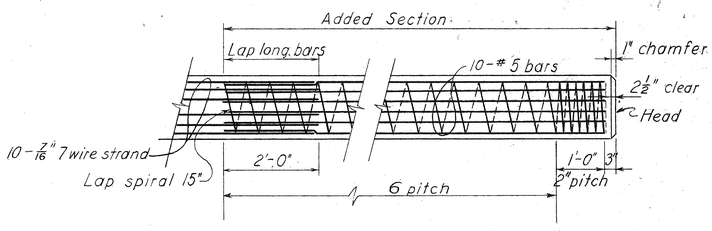


ONE POINT PICKUP
Use only when placing pile in lead.

PRESTRESSED CONCRETE PILE
Scale: 3/4" = 1'-0"

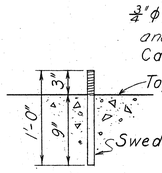


2 DETAIL C 17|17 5
SCALE: 1 1/2" = 1'-0"

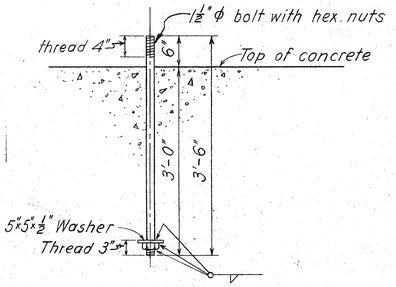


WHERE ADDITIONAL DRIVING IS REQUIRED
Scale: 3/4" = 1'-0"

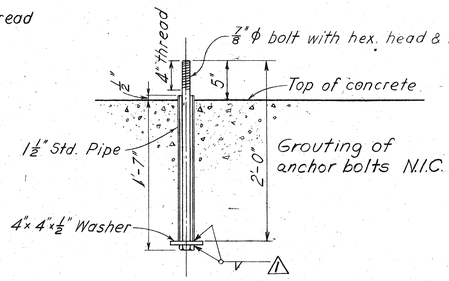
NOTE: TO BE USED AT ABUTMENTS 1 AND 6 ONLY.



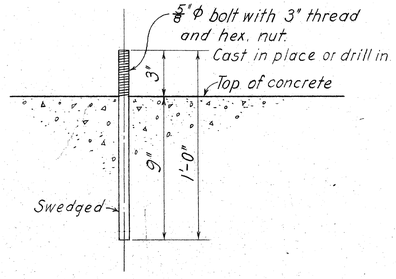
ANCHOR BOLT 3
Traffic Barrier
Scale: 1 1/2" = 1'-0"



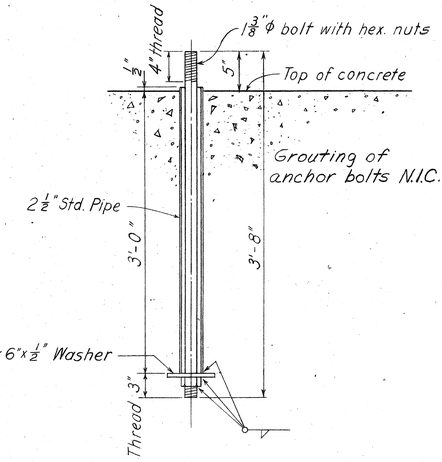
ANCHOR BOLT 8
Live Load Shoe
Scale: 1" = 1'-0"



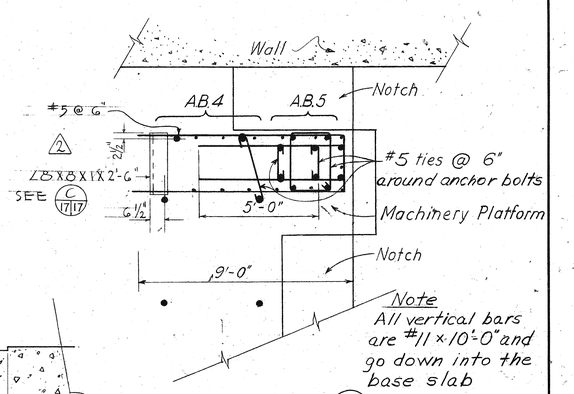
ANCHOR BOLT 4
Scale: 1 1/2" = 1'-0"



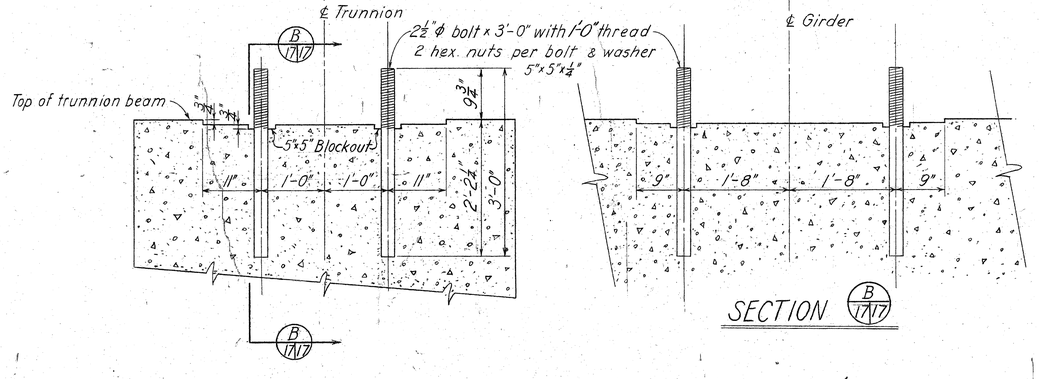
ANCHOR BOLT 7
Motocylinder.
Scale: 3" = 1'-0"



ANCHOR BOLT 5
Scale: 1 1/2" = 1'-0"



DETAIL L 17|9
TIE-UP OF ANCHOR BOLTS 4 AND 5
Scale: 3/8" = 1'-0"



ANCHOR BOLTS 6 (SET ACCURATELY WITH TEMPLATE) 3
TRUNNION BEARING
Scale: 1" = 1'-0"

NOTES: For location of anchor bolts, see Sheet 5
Provide standard washers, except ~~where~~ otherwise noted.
For bar bending details & cover reinforcement see Sheet 15

GRAPHIC SCALE 12" = 1'-0"
GRAPHIC SCALE 3/8" = 1'-0"
GRAPHIC SCALE 3/4" = 1'-0"
GRAPHIC SCALE 1" = 1'-0"
GRAPHIC SCALE 1 1/2" = 1'-0"
GRAPHIC SCALE 3" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHK'D	APP'D
3	4/1/60	ADDED NOTE FOR ANCHOR BOLT 6	WK	CF	
2	21AUG59	REVISED DETAIL L/17/9 & ADDED DETAIL C/17/17	EC	CF	
1	15 June 1959	Added welding notation	SHEFF		

REVISIONS

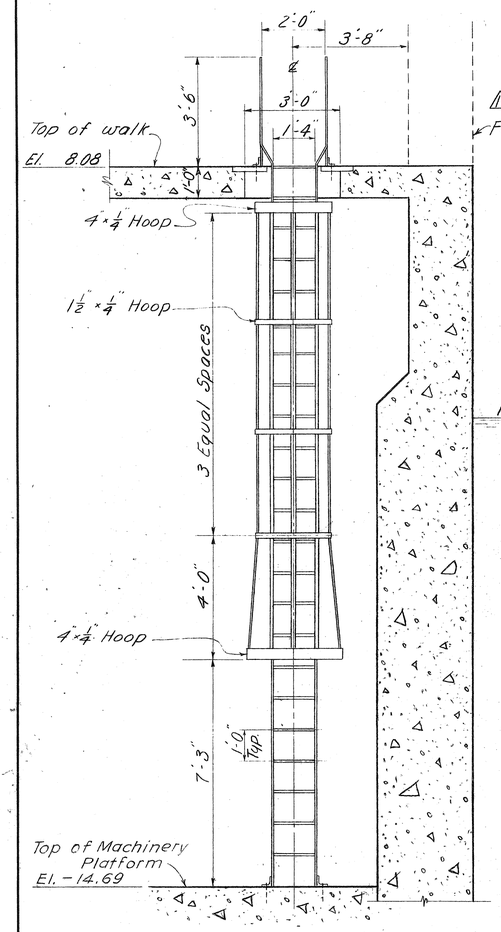
LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS HONOLULU, T.H.

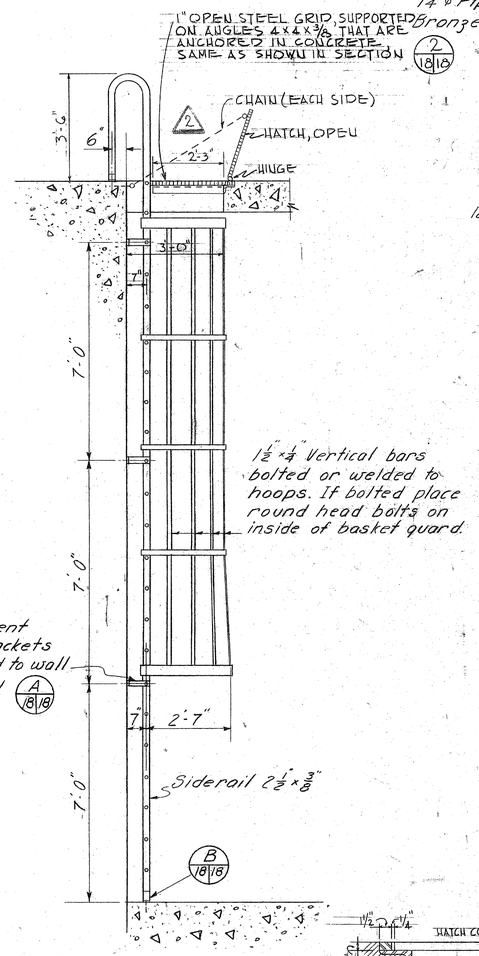
DRAWN BY: F.A.G.
TRACED BY:
CHECKED BY: PML
SUBMITTED BY: L.O. Hedgren
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
ANCHOR BOLTS AND PILE DETAILS

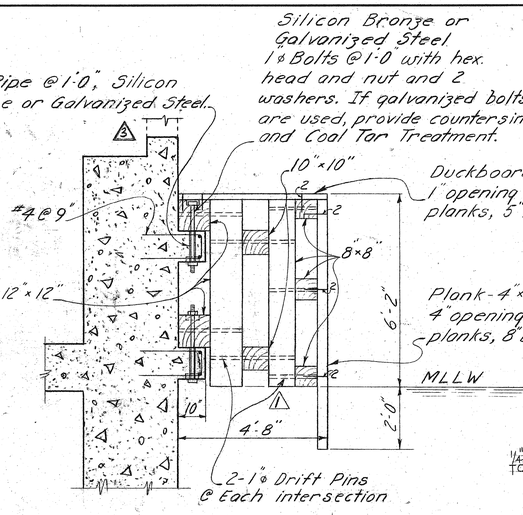
SCALE AS SHOWN
DRAWING NUMBER
SHEET 17
AS BUILT
RH 9/64.17



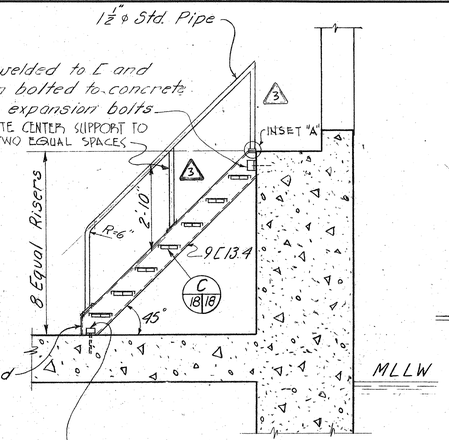
FRONT ELEVATION

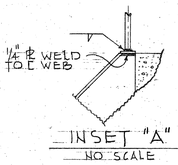


SIDE ELEVATION



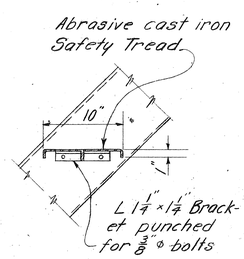
TYPICAL FENDER SECTION F/18/9
Scale: ½"=1'-0"



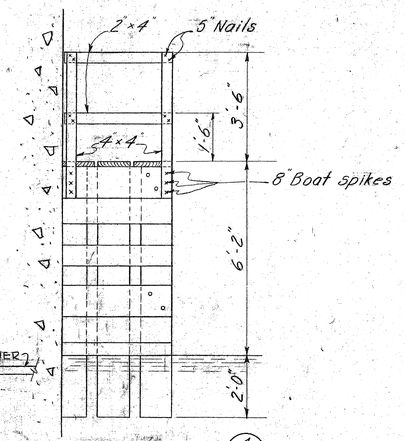


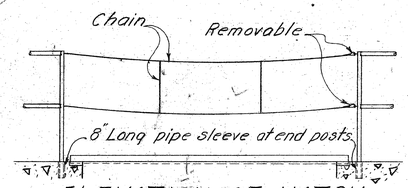
INSET "A" 3
NO SCALE

DETAIL B/18/9
LADDER-METAL-SHIP TYPE, 2 IN PIERS 3 AND 4
Scale: ½"=1'-0"

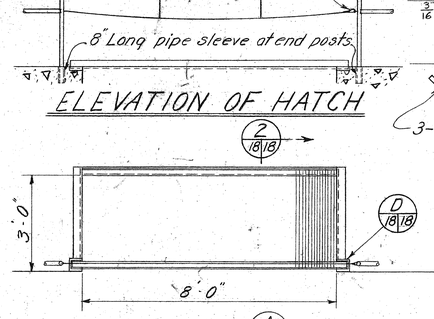


DETAIL C/18/18
Scale: 1½"=1'-0"

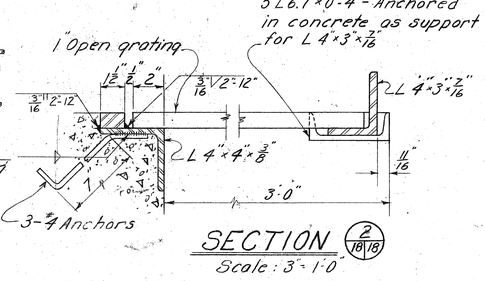




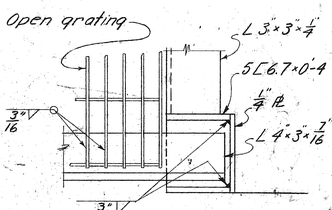
ELEVATION OF HATCH
2/18/18



DETAIL A/18/9
PLAN OF HATCH FOR MACHINERY
Scale: ½"=1'-0"

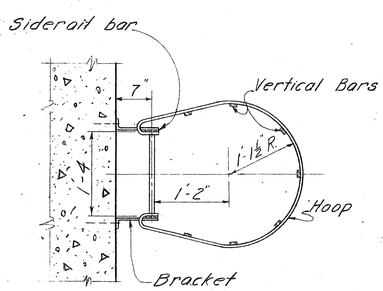


SECTION 2/18/18
Scale: 3"=1'-0"

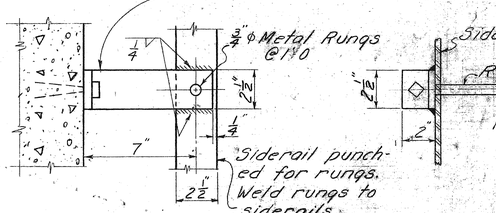


DETAIL D/18/18
Scale: 3"=1'-0"

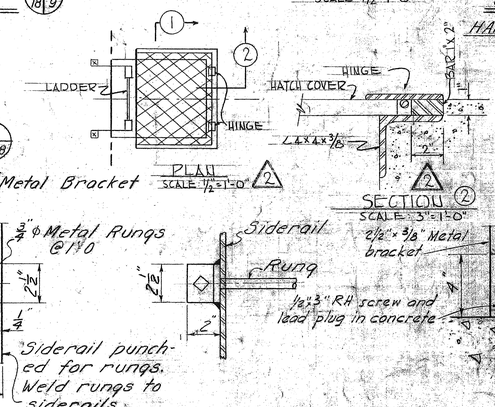
DETAIL C/18/9
LADDER
Scale: ½"=1'-0"



PLAN OF CAGE
Scale: 1"=1'-0"



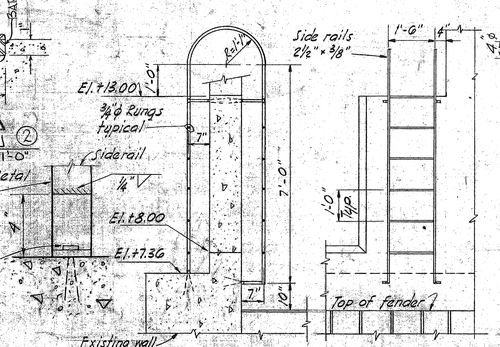
DETAIL A/18/18
Scale: 3"=1'-0"



SECTION 1/18/18
Scale: 3"=1'-0"

SECTION 1 SCALE: 1½"=1'-0"

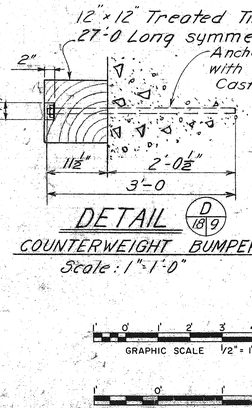
SECTION 4/18/9
HANDRAIL ON PIER FENDER
Scale: ½"=1'-0"



SIDE ELEVATION

FRONT ELEVATION

DETAIL B/18/18
Scale: 3"=1'-0"



DETAIL D/18/9
COUNTERWEIGHT BUMPER
Scale: 1"=1'-0"

GRAPHIC SCALE ½"=1'-0"

GRAPHIC SCALE 1"=1'-0"

GRAPHIC SCALE 1½"=1'-0"

GRAPHIC SCALE 3"=1'-0"

DETAIL E/18/18
Scale: ½"=1'-0"
DETAILS Similar to A/18/18 and B/18/18 and SECTION 1/18/18
4 DETAIL E/18/18 SUPERSTRUCTURE
Access ladders on Harbor and Seaward sides of Pier 3 and Pier 4 similar but opposite hand.

Revision Note:
1. Showed wall as future construction
2. Added drift pins on fender section
3. Changed RH Screw size

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
1	10 DEC 64	SEE SUPERSTRUCTURE DETAIL, E/18/18 AS BUILT	R.T.	TMT	
2	15 MAY 64	ADDED DETAIL E/18/18 & WALL IN SECTION F/18/9	J.M	S.H.E.	
3	21 OCT 59	REVISED DETAIL C/18/9 SIDE ELEVATION AND ADDED PLAN AND SECTIONS 1 AND 2	RC	C.F.M.	
4	15 JUNE 1959	See note above.	SHF	F.F.	

REVISIONS

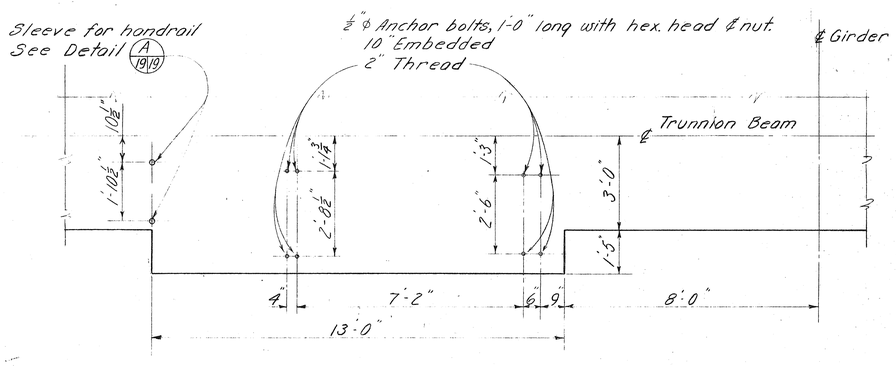
LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS HONOLULU, T.H.

DRAWN BY: C.A.
TRACED BY:
CHECKED BY: P.M.L.
SUBMITTED BY: K.O. McGuinn
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
PIER FENDER AND MISCELLANEOUS DETAILS

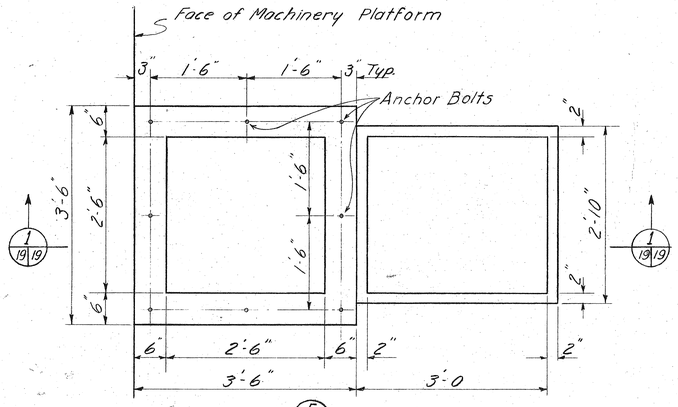
SCALE As shown
DRAWING NUMBER AS BUILT
SHEET 18
RH 9/6418



DETAIL J 19/19

LAYOUT OF ANCHOR BOLTS AND SLEEVES IN TRUNNION BEAM FOR THE LADDER TO THE CATWALK. LADDER N.I.C.

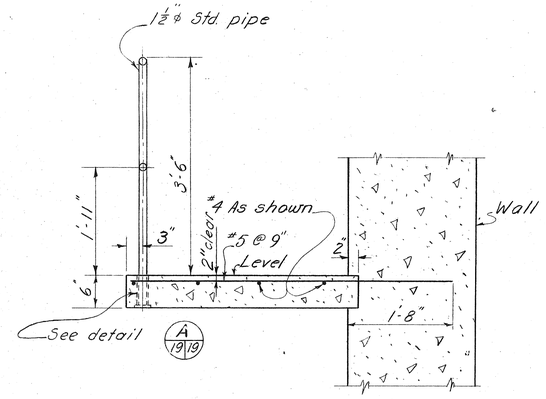
Scale: ½"=1'-0



DETAIL E 19/19

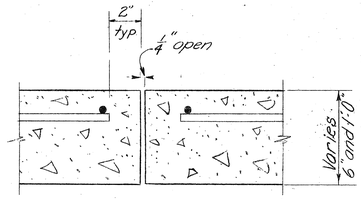
PLAN OF PUMP SUMP

Scale: 1"=1'-0"



SECTION 3 19/13

Scale: 1"=1'-0"

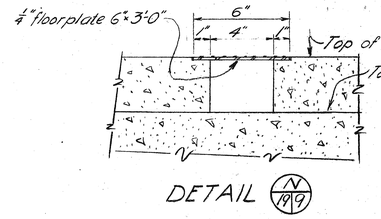


DETAIL K 19/19

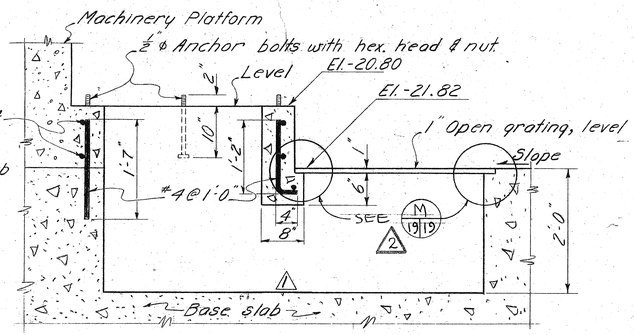
EXPANSION JOINT IN WALK

Scale: 3"=1'-0"

NOTE: No reinforcement to go through joint

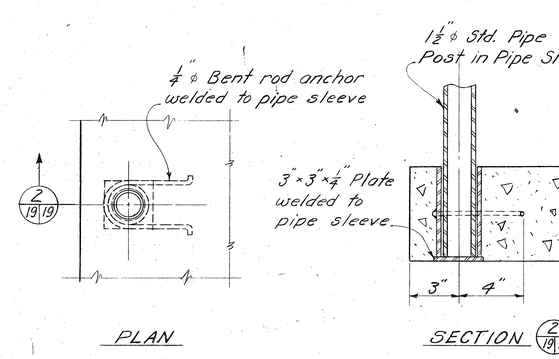


DETAIL N 19/19



SECTION 1 19/19

Scale: 1"=1'-0"



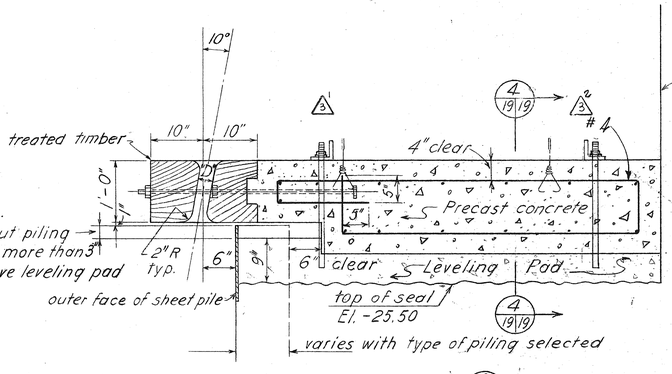
PLAN

SECTION 2 19/19

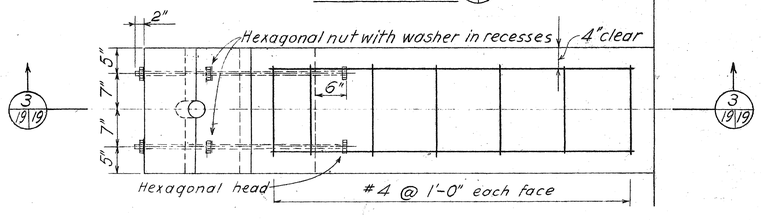
DETAIL A 19/19

Scale: 3"=1'-0"

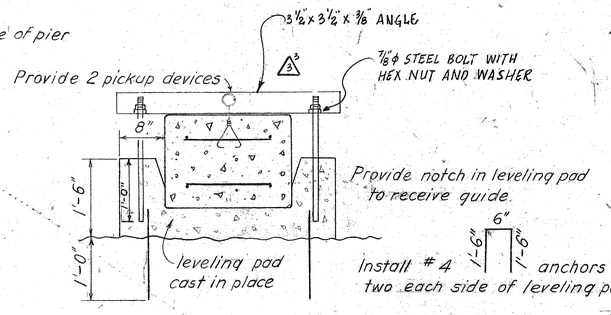
NOTES: Use some sleeve for all handrail posts except that anchors and bottom plate are required in the 6" walk only.
Length of sleeve is 6" unless otherwise noted.
For bar bending details & cover requirements see Sheet 15



SECTION 3 19/19



PLAN

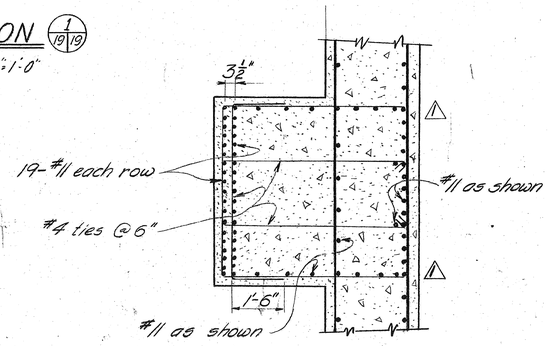


DETAIL C 19/25

CABLE GUIDE

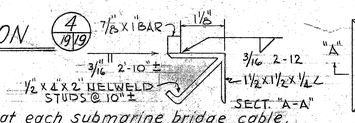
Scale: 1"=1'-0"

Provide guide at each submarine bridge cable. Size of hole "D" to be equal to cable diameter. Bolts, nuts and washers are to be 1"ϕ silicon bronze NC-8 threads. Cable guide treated timber to be same as used in pier fenders.

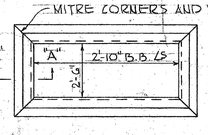


SECTION 1 19/19

Scale: 1"=1'-0"



SECTION 4 19/19



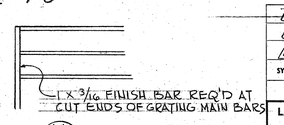
DETAIL OF FRAME FOR SUMP COVERS SG

NOT TO SCALE

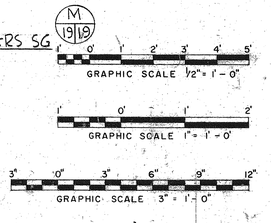
2

SECTION 4 19/13

Scale ½"=1'-0"



M 19/19



AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
3	7/15/1959	"AS BUILT" ADDED STL ANGLES & ANCHOR BOLTS	R.T.	DHT	
2	2/20/1959	ADDED DETAIL M/19/19	RCC		
1	7/5/1959	See note above.	S.H.F.	F.F.	

REVISIONS

Revision 1 Note:
1. Removed 3'x6" sill in sump
2. Added one bar in each column face at wall

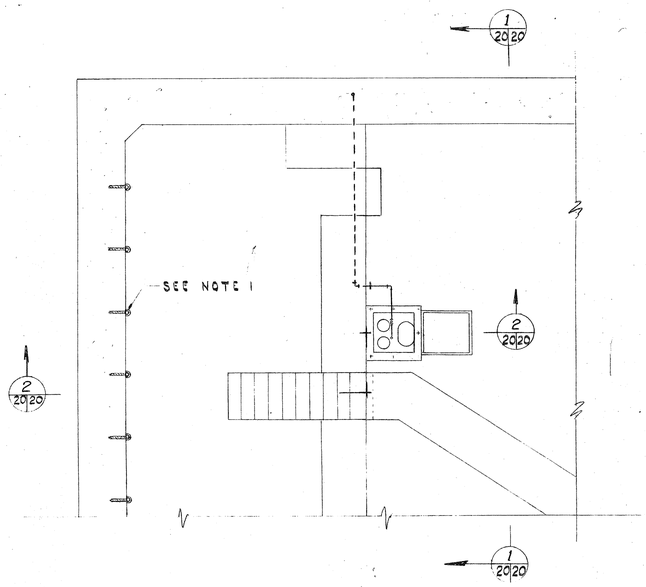
LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS, HONOLULU, T.H.

DRAWN BY: C.A. & F.A.G.
TRACED BY:
CHECKED BY: PML
SUBMITTED BY: L.O. Halvorsen
APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION DATE 20 MAY 1959
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

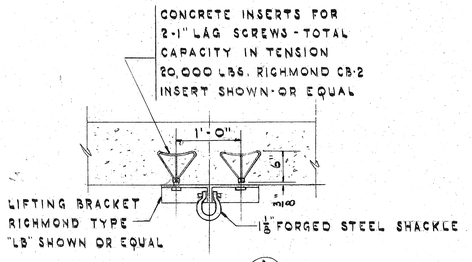
HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
SUMP AND MISCELLANEOUS DETAILS

SCALE AS SHOWN
DRAWING NUMBER AS BUILT
SHEET 19 RH 9/64.19



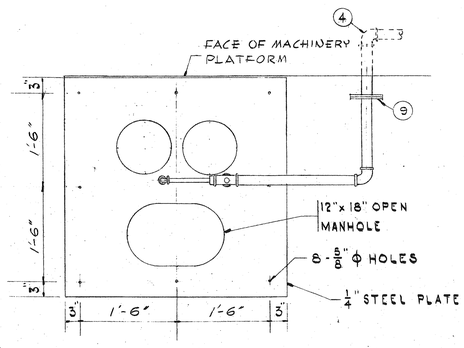
PARTIAL PLAN PIER 3
PIER 4 OPPOSITE HAND

SCALE : 1/4" = 1'-0"



DETAIL A 20 20
LIFTING FIXTURE

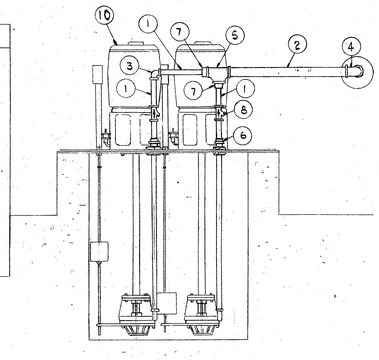
SCALE : 1"=1'-0"



PLAN

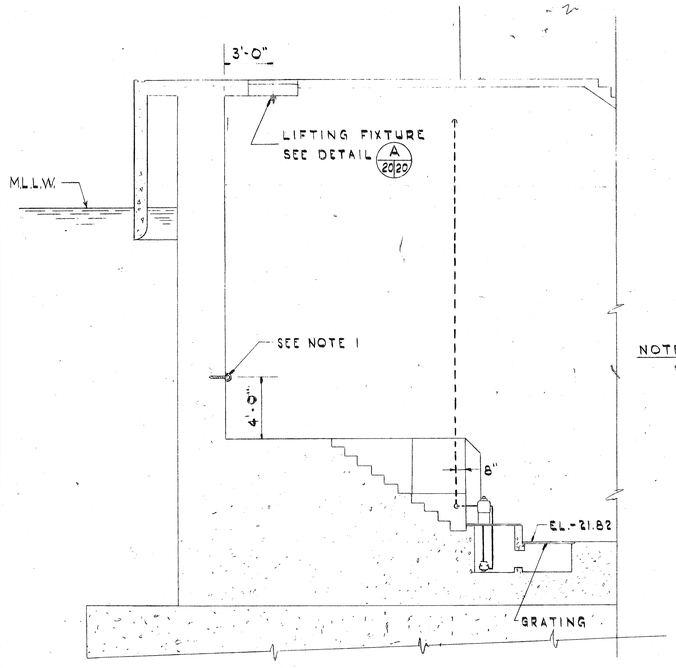
SCALE : 1"=1'-0"

LIST OF ITEMS
1- 1" PIPE GALV.
2- 2" PIPE GALV.
3- 1" SCREWED ELL GALV.
4- 2" SCREWED ELL GALV.
5- 2" SCREWED TEE GALV.
6- 1" SCREWED COUPLING GALV.
7- 2"x1" BUSHING GALV.
8- 1" SWING CHECK BRONZE
9- 2"x6" O.D. BOLTED FLANGES GALV.
10- DUPLEX PUMP



ELEVATION
SUMP PUMP

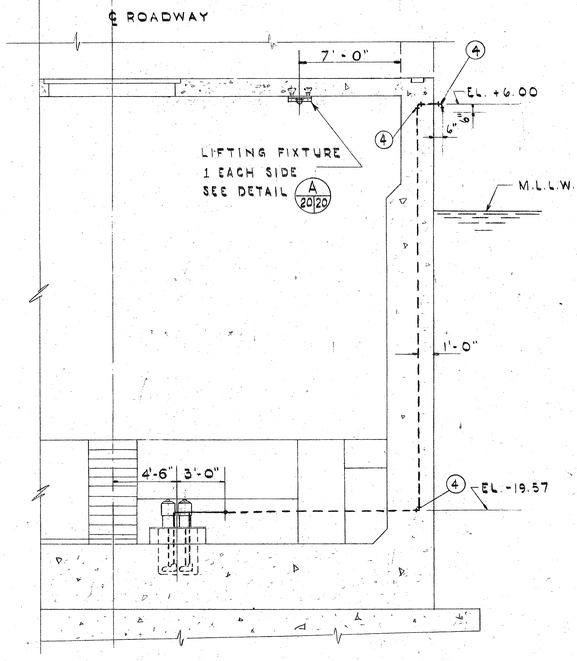
SCALE : 1"=1'-0"



NOTE 1 —
ANCHOR EYE BOLT
1 1/4" x 7" x 2" I.D. RATED
CAPACITY 15500 LBS.
8 REQUIRED ON BACK
WALL. SPACE 4'-0" O.C

SECTION 2 20 20

SCALE : 1/4"=1'-0"



SECTION 1 20 20

SCALE : 1/4"=1'-0"

4' 2' 0' 4' 8'
GRAPHIC SCALE 1/4" = 1'-0"

1' 0' 1' 2'
GRAPHIC SCALE 1" = 1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

DRAWN BY: L. S.
TRACED BY:
CHECKED BY: PEP
SUBMITTED BY: L. O. Nelgaard

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
SUMP PUMP AND PIPING

APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH
APPROVED: CHIEF, ENGINEERING DIVISION
DATE 20 MAY 1959

APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

SCALE AS SHOWN
DRAWING NUMBER
AS BUILT

SHEET 20 | RH | 9/64.20

ALFRED B. SABIN & ASSOCIATES
ENGINEERS
604 MISSION ST SAN FRANCISCO, CALIF.

CORPS OF ENGINEERS — U. S. ARMY

CAST IRON PIPE DESIGNATIONS & NOTATIONS

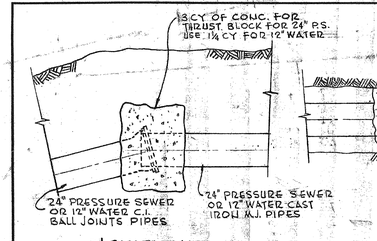
FITTINGS CLASS 150 & 250 - AS PER FEDERAL SPECIFICATION WW-P-421

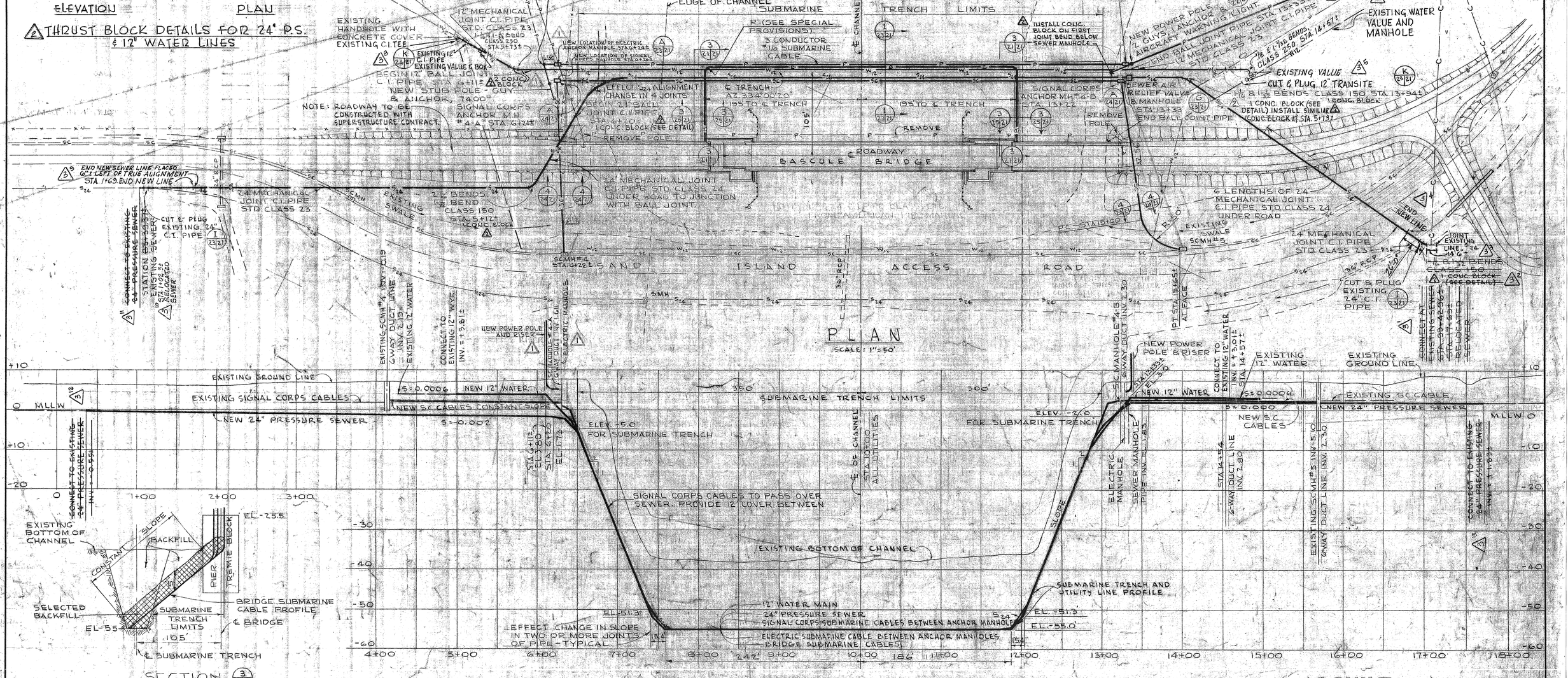
PIPE	MIN. WALL THICKNESS	MIN. IRON QUALITY
12" STD. CLASS 23	0.52"	"A"
12" BALL JOINT	0.60"	"A"
24" STD. CLASS 23	0.73"	"A"
24" STD. CLASS 24	0.79"	"B"
24" BALL JOINT	0.85"	"B"

IRON QUALITY	TENSILE STRENGTH	MODULUS OF RUPTURE	MODULUS OF ELASTICITY
"A"	18,000 PSI	40,000 PSI	10,000,000 PSI
"B"	21,000 PSI	45,000 PSI	11,500,000 PSI

NOTE: BALL JOINT PIPE SHALL BE EQUAL TO THAT MANUFACTURED BY AMERICAN CAST IRON PIPE CO. OR UNITED STATES PIPE AND FOUNDRY CO.

2 THRUST BLOCK DETAILS FOR 24" P.S. & 12" WATER LINES





PLAN

SCALE: 1" = 50'

SECTION (3/21/21)

SCALES: HORZ. 1" = 50' VERT. 1" = 10'

NOTE

PROVIDE—

(1) 6" MINIMUM COVER WHERE BRIDGE CABLES CROSS OVER SEWER & WATER.

(2) 12" MINIMUM COVER WHERE BRIDGE CABLES CROSS OVER SIGNAL CORPS CABLES.

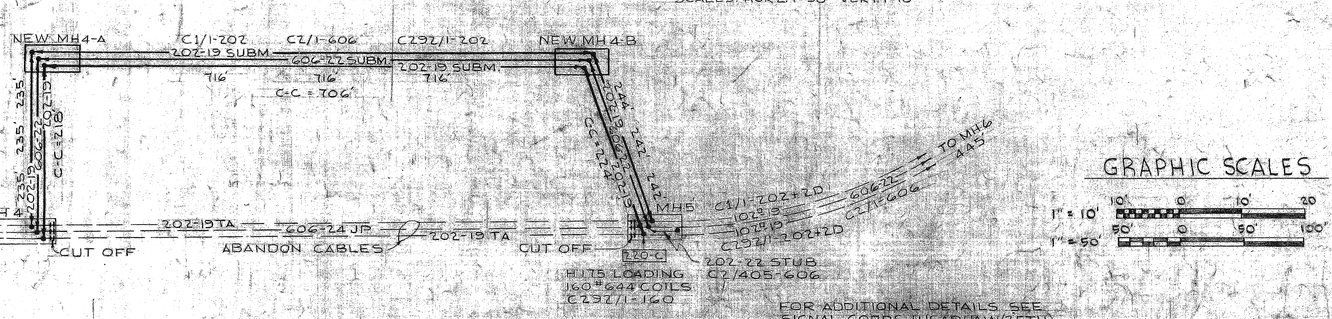
CABLE FIELS*

CABLE	WORKING PAIRS
1	47
2	19
292	166

*4/22/59

DEVELOPED PROFILES

SCALES: HORZ. 1" = 50' VERT. 1" = 10'



SCHEMATIC OF SIGNAL CORPS CABLE WORK

FOR ADDITIONAL DETAILS SEE SIGNAL CORPS (USARHAW/25TH) DWG. 1130-TI, SHEET 2 OF 6.

GRAPHIC SCALES

1" = 10' (10' 0 10' 20)

1" = 50' (50' 0 50' 100')

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
3/8	20 MAR 1961	AS BUILT REVISED PLAN & PROFILE	RT	MP	MP
4/8	16 MAR 1961	DETAIL & LOCATIONS FOR 24" PRESSURE SEWER & 12" WATER LINE THRUST BLOCKS	WK	CF	MP
1/8	17 FEB 1959	IN "PLAN" & "DEVELOPED PROFILES" RELOCATED THE FOLLOWING: NEW STUB POLE - GUY & ANCHOR #7400 NEW POWER POLE & HEAD GUY #7400 ELECTRIC ANCHOR & SIGNAL CORPS MANHOLES TO STA 6+24.5 3-#4 OVERHEAD PRIMARY LINE	RC	CF	MP

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS — HONOLULU — SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS HONOLULU, T.H.

DRAWN BY: LEC
TRACED BY:
CHECKED BY: SHF
SUBMITTED BY:

HONOLULU HARBOR OAHU, T.H.

SECOND ENTRANCE CHANNEL BASCULE BRIDGE UTILITY PLANS AND PROFILES

APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH

APPROVED: CHIEF, ENGINEERING DIVISION

DATE: 20 MAY 1959

APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

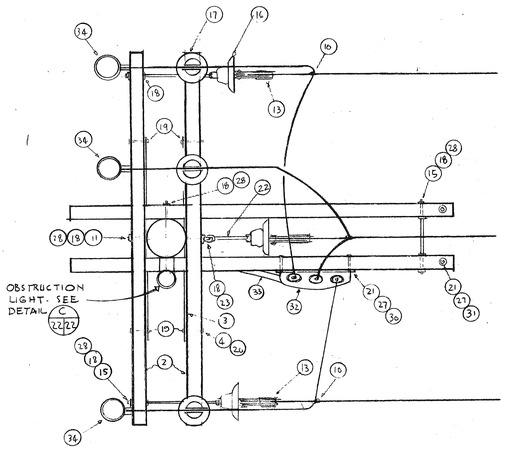
SCALE: AS NOTED

DRAWING NUMBER: AS BUILT

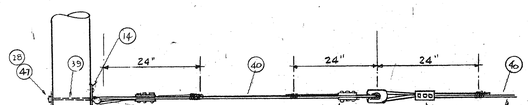
SHEET 21 — RH 9/64 21

CORPS OF ENGINEERS

U. S. ARMY

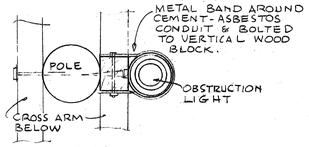


PARTIAL PLAN VIEW

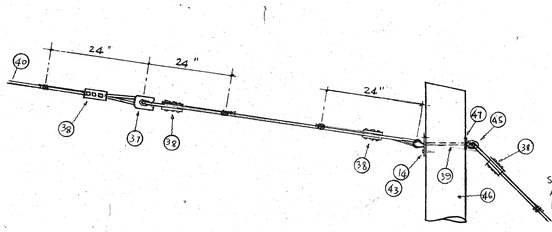


TYPICAL HEAD GUY B 22 22

NOT TO SCALE:

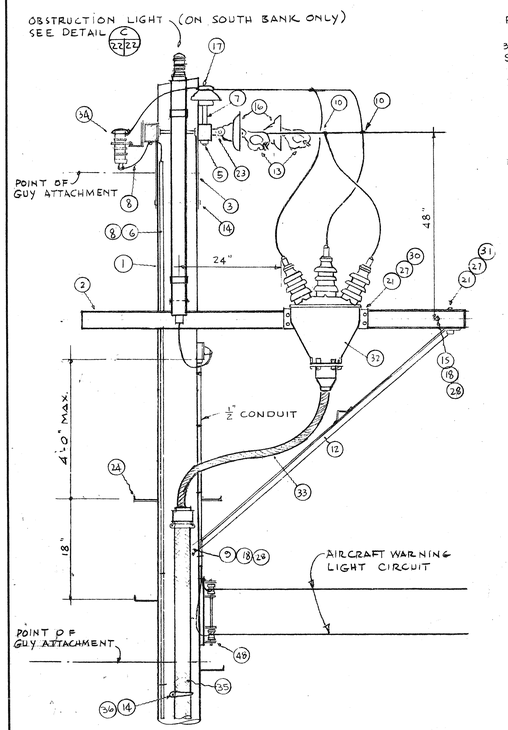


PLAN



STUB POLE A 22 21

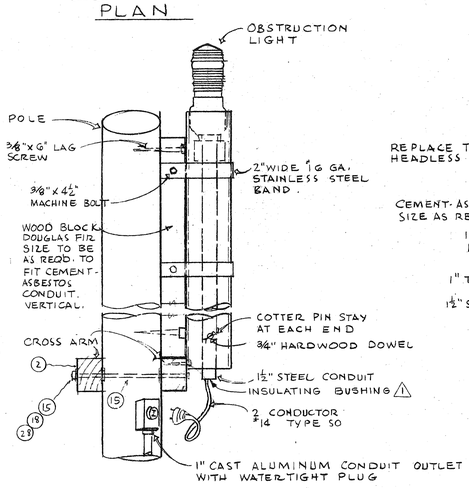
NOT TO SCALE:



SIDE VIEW

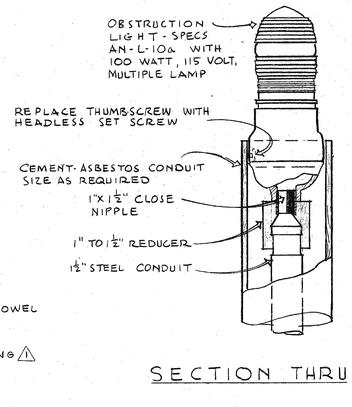
DEAD END CABLE RISER POLE D 22 21

NOT TO SCALE:



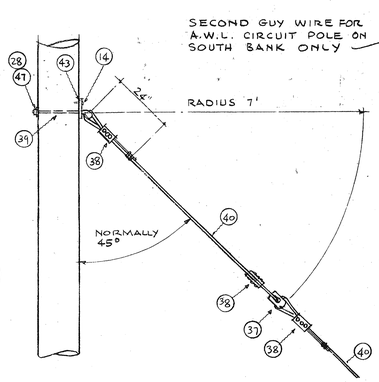
AT CROSS ARM

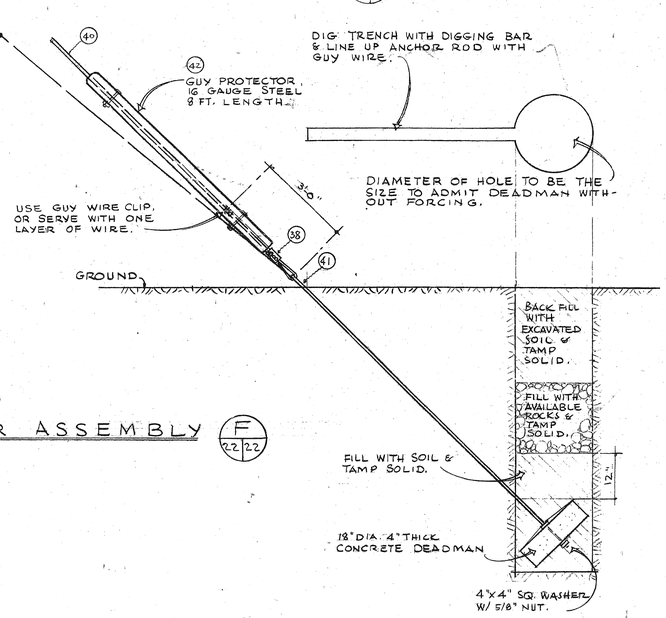
NOT TO SCALE:



SECTION THRU

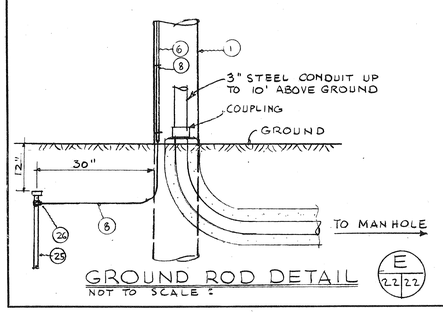
OBSTRUCTION LIGHT - DETAILS C 22 22





TYPICAL GUY & ANCHOR ASSEMBLY F 22 22

NOT TO SCALE:



GROUND ROD DETAIL E 22 22

NOT TO SCALE:

MATERIAL SCHEDULE

NUMBER	DESCRIPTION
1	WOOD POLE, 45', CLASS 3
2	CROSS ARM, DOUGLAS FIR, 3½"X4½"X8'
3	BRACE, FLAT CROSS ARM, 1½" X ⅜" X 34" STRUCTURAL GRADE STEEL 10,000 lbs. B. S.
4	CARRIAGE BOLT, ⅜" X 4½"
5	#8 MHD, COPPER, BOND TO INSULATOR PINS ONLY (DO NOT GROUND)
6	WOOD MOULDING, HALF ROUND, STAPLE EVERY 12" WITH COPPER CLAD STAPLES
7	INSULATOR PIN, FORGED STEEL, HIGH TENSION 1" LEAD THREADS
8	#4 SOFT DRAWN COPPER, ARRESTOR GROUND WIRE
9	MACHINE BOLT, ⅝" X 10"
10	CONNECTOR, SPLIT BOLT, COPPER ALLOY
11	MACHINE BOLT, ⅝" X 18"
12	ALLEY ARM BRACE, 1⅝ X 1⅝" X ⅛" ANGLE IRON 7' LONG
13	STRAIN CLAMP - ENVELOPE TYPE ULTIMATE STRENGTH 8,000 lbs.
14	LAG SCREW, ½" X 4" FETTER DRIVER
15	DOUBLE ARM BOLT 5/8" X 18"
16	SUSPENSION INSULATOR, 10" DIA. EEI-NEMA CLASS 52-4.
17	PIN TYPE INSULATOR, 1" DIA. PIN HOLE. EEI-NEMA CLASS 52-3
18	SQUARE WASHER, 2½" X 2½" X 3/16", 11/16" HOLES
19	ROUND WASHER, 1" DIA., 7/16" HOLE
20	ROUND WASHER, 1½" DIA., 9/16" HOLE, USE UNDER HEAD OF BOLT
21	ROUND WASHER, 1⅜" DIA., 9/16" HOLE.
22	EXTENSION LINK, ⅞" X 10" ULTIMATE STRENGTH - 20,000 lbs.
23	EYE NUT, 5/8" BOLT SIZE
24	POLE STEPS, 5/8" X 10" FETTER DRIVE
25	GROUND ROD, 5/8"X 8'-0" SECTIONAL ROD, COPPER ENCASED STEEL SECTIONAL
26	5/8" GROUND ROD CLAMP
27	M-F LOCK NUT, SQ. ½" BOLT SIZE
28	M-F LOCK NUT, SQ. 5/8" BOLT SIZE
29	M-F LOCK NUT, SQ. ¾" BOLT SIZE
30	MACHINE BOLT, ½" X 5"
31	MACHINE BOLT, ½" X 7"
32	POTHEAD 5 KV OUTDOOR CAP NUT TYPE, SHAPE "B", WIPING SLEEVE
33	PRIMARY CABLE - 3 CONDUCTOR, #1/0, VCL, 7500 V. GROUND, NEUTRAL
34	LIGHTING ARRESTORS, ENCASED VALVE TYPE 3 KV
35	HIGH IMPACT PLASTIC, EXTENDED FROM TERMINATION OF RIGID STEEL CONDUIT 10' ABOVE GRADE
36	CONDUIT STRAP, LOCATED EVERY 4 FEET
37	GUY STRAIN INSULATOR
38	GUY CLAMP "G", 3 BOLT, 5/8" BOLT
39	ANGLE THIMBLE EYE BOLT, 5/8" X 10"
40	GALVANIZED GUY WIRE, 7-STRAND, HOLDING STRENGTH AS INDICATED ON SHEET 21
41	ANCHOR ROD, THREADED, DOUBLE THIMBLEYE 5/8" X 8'-0"
42	GUY PROTECTOR, 8 FT., 16 GA. GALV. STEEL
43	LIFT PLATE - 3 HOLE, ¼" STEEL PLATE
44	SINGLE ARM BOLT, 5/8" X 14"
45	EYE NUT - 5/8" GALV. NUT
46	WOOD POLE, 30' STUB POLE, CLASS 5
47	CURVED WASHER - MALLEABLE IRON 3" SQ. 11/16" HOLE
48	2 SPOOL RACK - SECONDARY 12" SPACING

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
1	15 JUNE 1959	ADDED INSULATING BUSHING	S.H.F.	F.F.	

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS — HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS HONOLULU, T.H.

DRAWN BY: NAKAGAWA
TRACED BY:
CHECKED BY: OBERHAUSEN
SUBMITTED BY: James B. Wilson

HONOLULU HARBOR OAHU, T.H.

SECOND ENTRANCE CHANNEL BASCULE BRIDGE

ELECTRIC DETAILS

APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH

APPROVED: CHIEF, ENGINEERING DIVISION — DATE 20 MAY 1959

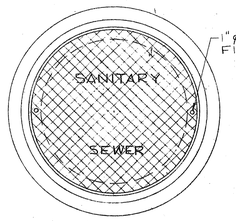
APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

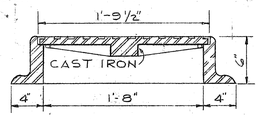
SCALE NONE

DRAWING NUMBER AS BUILT

SHEET 22

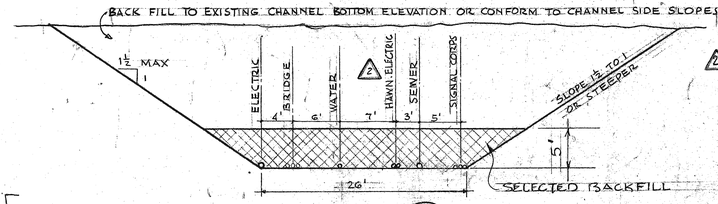
RH 9/64.22





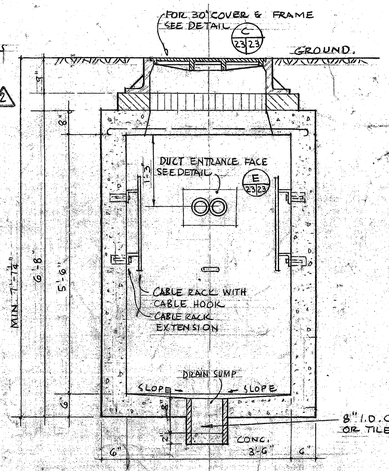
STANDARD MANHOLE FRAME & COVER

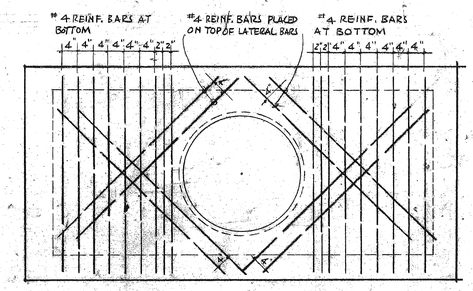
SCALE 1½" = 1'-0"



SECTION (1 / 23 / 21)

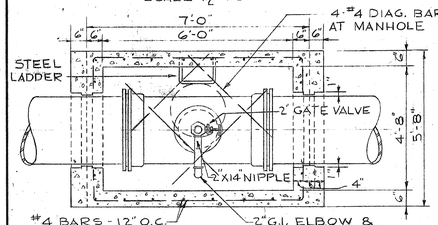
NO SCALE

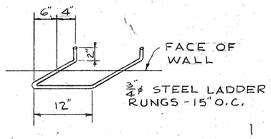




TOP VIEW & ROOF REINFORCING DETAIL

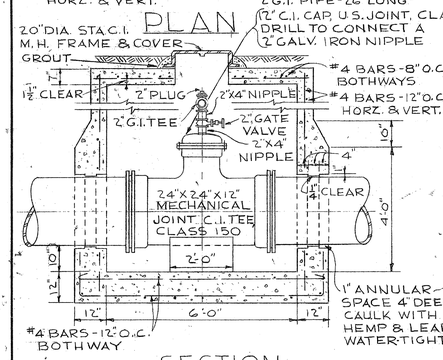
SCALE: 3/4" = 1'-0"



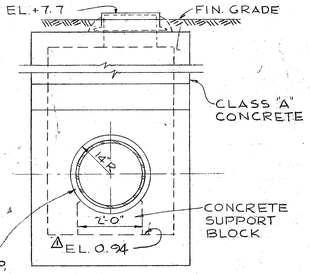


DETAIL OF STEEL LADDER

SCALE 1" = 1'-0"



PLAN

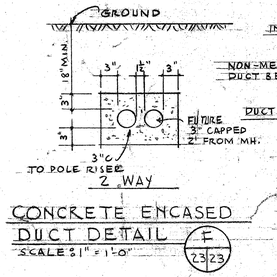


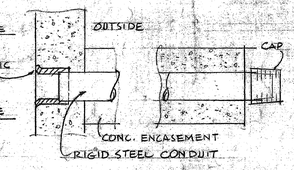
SECTION — ELEVATION

SEWER AIR RELEASE VALVE & MANHOLE

(G / 23 / 21)

SCALE ½" = 1'-0"





CONCRETE ENCASED DUCT DETAIL

(F / 23 / 23)

SCALE: 1" = 1'-0"

DUCT ENTRANCE DETAIL

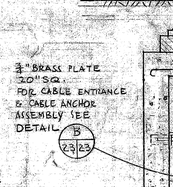
(E / 23 / 23)

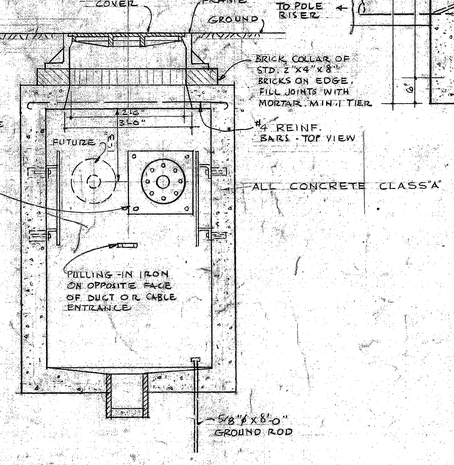
SCALE: 1½" = 1'-0"

DUCT STUB-OUT DETAIL

(D / 23 / 23)

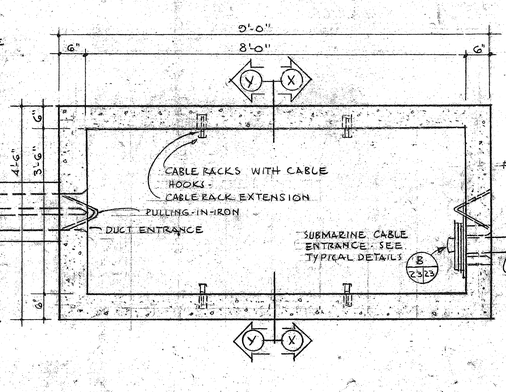
SCALE: 1½" = 1'-0"





SECTION "X-X"

SCALE: ¾" = 1'-0"



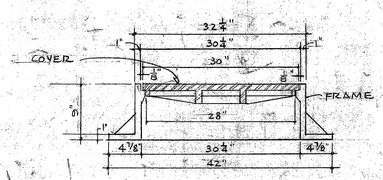
PLAN VIEW

SCALE: ¾" = 1'-0"

ELECTRIC - ANCHOR MANHOLE

(A / 23 / 21)

AS NOTED



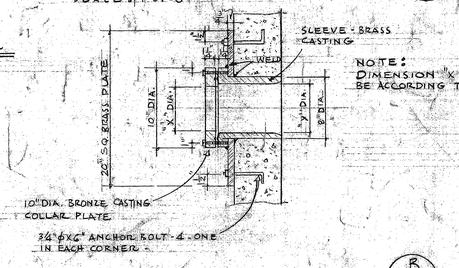
30" DIA. COVER: CAST IRON - WITH [E] ON TOP FACE.

30¼" DIA. OPENING COLLAR FRAME.

ELECTRIC M.H. FRAME & COVER

(C / 23 / 23)

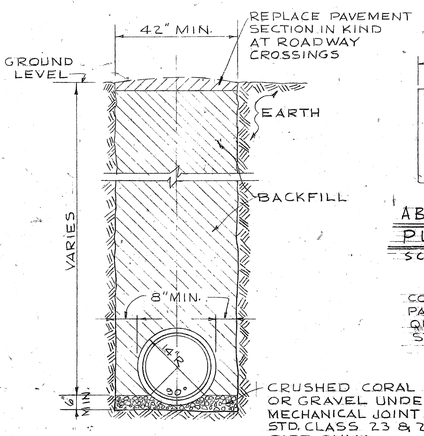
SCALE: 1" = 1'-0"



CABLE ANCHOR ASSEMBLY DET.

(B / 23 / 23)

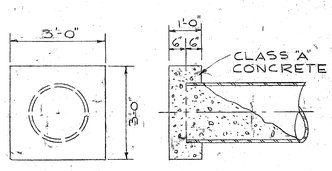
NOT TO SCALE



SEWER TRENCH EXCAVATION OUTSIDE SUBMARINE TRENCH

(H / 23 / 23)

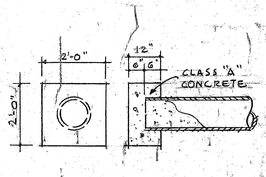
SCALE ½" = 1'-0"



ABANDONED SEWER LINE PLUG DETAIL

(I / 23 / 21)

SCALE: ½" = 1'-0"

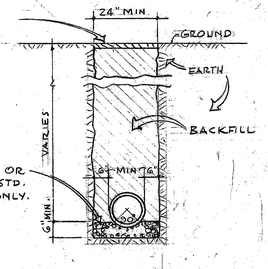


ABANDONED WATER PLUG DETAIL

(K / 23 / 21)

SCALE: ½" = 1'-0"

CONTRACTOR TO REPLACE PAVEMENT SECTION AT QUARTER MASTER DEPOT STORAGE AREA IN KIND.

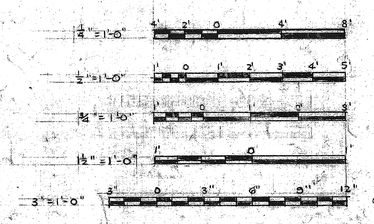


WATER TRENCH EXCAVATION OUTSIDE SUBMARINE TRENCH DETAIL

(J / 23 / 23)

SCALE: ½" = 1'-0"

GRAPHIC SCALES



AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD.	APP
2	10/21	REMOVE 4 DIMENSION, SECTION Y-Y, IN SEC 1/23/21 ADDED SUNN ELECT UNDER AS BUILT	RT		
1	6/64	LEVEL OF SEWER AIR RELEASE VALVE MANHOLE REVISED FROM ELEV. 2.75 TO ELEV 0.94	EF		

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS — HONOLULU — SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS HONOLULU, T.H.

DRAWN BY: LEC-NAKAGAWA
TRACED BY:
CHECKED BY: SHF
SUBMITTED BY:

HONOLULU HARBOR OAHU, T.H.

SECOND ENTRANCE CHANNEL
BASCULE BRIDGE ELECTRIC, SEWER AND WATER DETAILS

APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH

APPROVED: CHIEF, ENGINEERING DIVISION

DATE: 20 MAY 1959

APPROVED: LT. COLONEL, CORPS OF ENGINEERS DISTRICT ENGINEER

SCALE AS NOTED

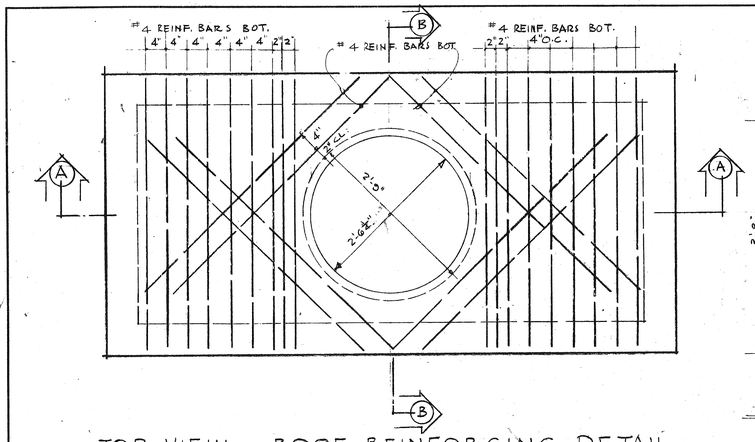
DRAWING NUMBER AS BUILT

SHEET 23

RH 9/64.23

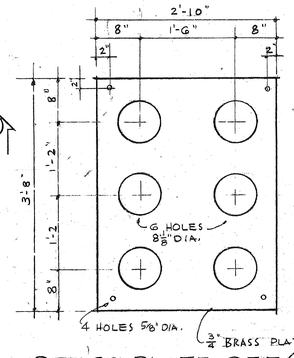
CORPS OF ENGINEERS

U. S. ARMY



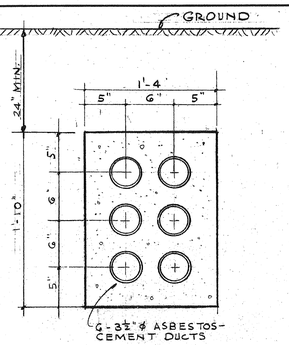
TOP VIEW & ROOF REINFORCING DETAIL

SCALE: 1" = 1'-0"



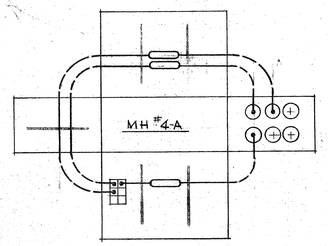
BRASS PLATE DET. E 24|24

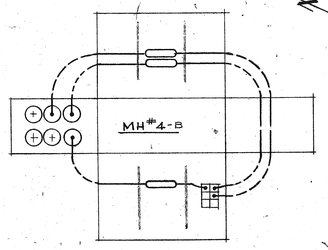
SCALE: 1" = 1'-0"

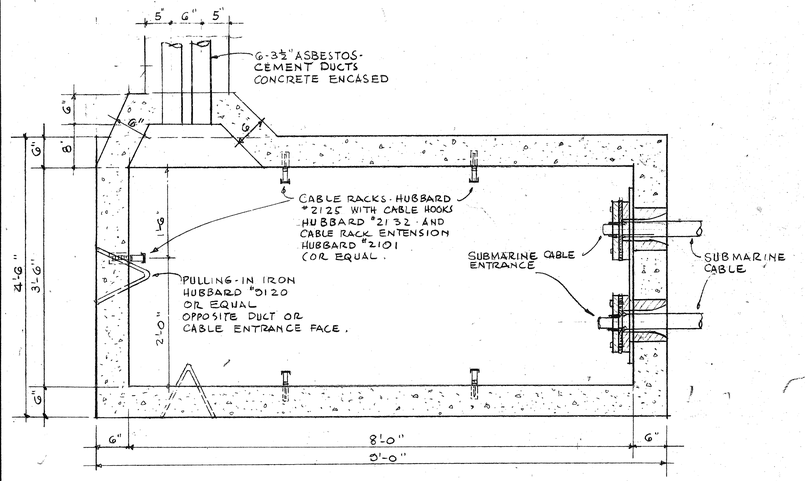


6-WAY • COMM. CONCRETE ENCASED DUCT DETAIL 4 24|21

SCALE: 1½" = 1'-0"

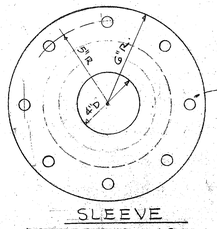






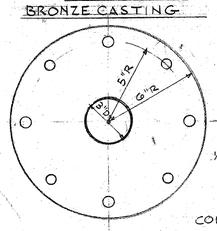
PLAN VIEW

SCALE: 1" = 1'-0"



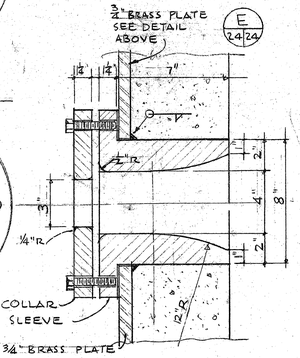
SLEEVE

BRONZE CASTING



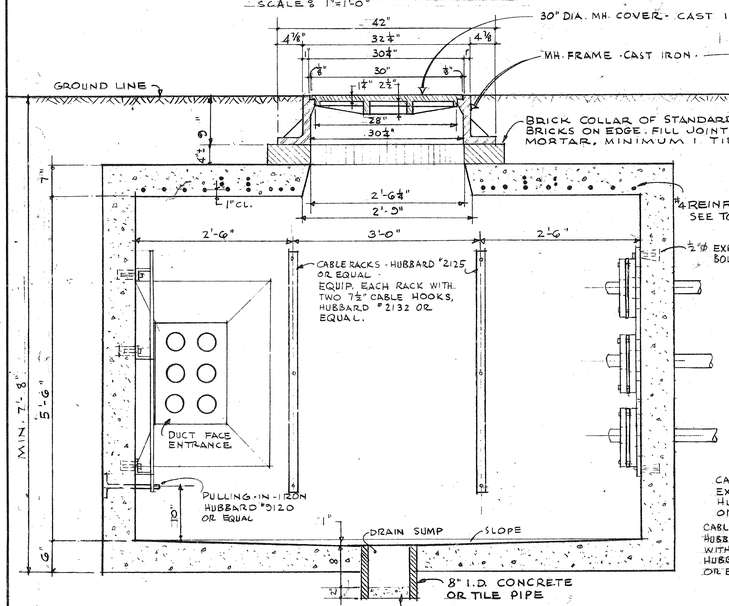
COLLAR

BRONZE CASTING



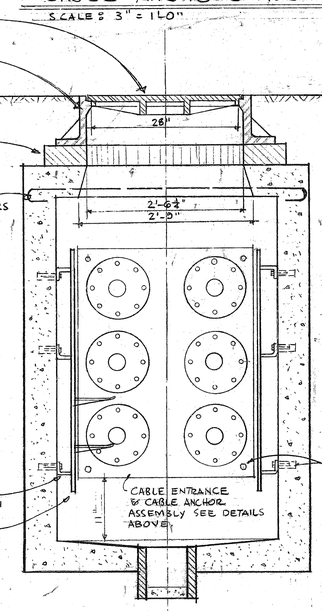
CABLE ANCHOR ASSEMBLY DETAIL D 24|24

SCALE: 3" = 1'-0"



SECTION "A-A"

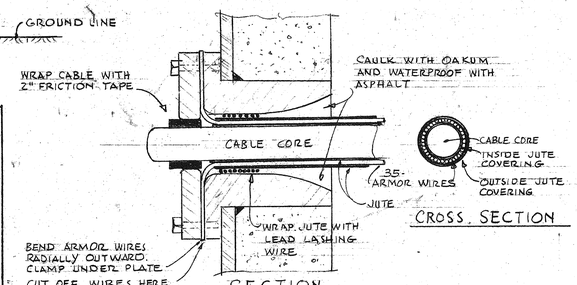
SCALE: 1" = 1'-0"



SECTION "B-B"

SCALE: 1" = 1'-0"

TYPICAL COMM. SUBMARINE CABLE ANCHOR MANHOLE DETAIL A 24|21

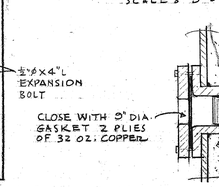


CROSS SECTION

SECTION

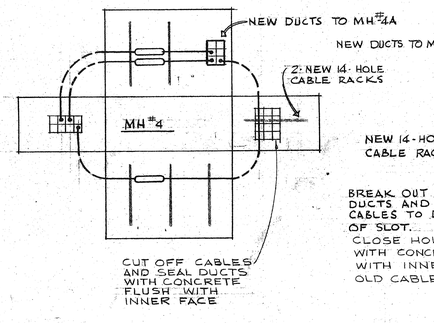
CABLE ENTRANCE DETAIL F 24|24

SCALE: 3" = 1'-0"



ANCHOR PORT CLOSURE G 24|24

NOT TO SCALE



PLACING OF NEW CABLE & DUCTS IN MANHOLES B 24|24

SCALE: ¼" = 1'-0"

GRAPHIC SCALES

¼" = 1'-0" 4' 2' 0 4' 8'

1" = 1'-0" 1' 0 1' 2'

1½" = 1'-0" 1' 0' 1'

3" = 1'-0" 3" 0 3" 6" 9" 12"

NOTES:

1. THIS DRAWING SHOWS THE CONSTRUCTION OF A RIGHT-HANDED TYPE "L" MANHOLE AS USED FOR MANHOLE #4-B. MANHOLE #4-A IS SIMILAR, BUT LEFT-HANDED.
2. NEW DUCTS INTO EXISTING MANHOLES SHALL BE CONSTRUCTED PER DETAIL "A", THIS SHEET.
3. ALL CONCRETE SHALL BE CLASS "A".

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP
		REVISIONS			

LAW & WILSON — TUDOR ENGINEERING CO.
ARCHITECTS & ENGINEERS
HONOLULU SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU
CORPS OF ENGINEERS
HONOLULU, T.H.

DRAWN BY: SMITH
TRACED BY: NAKAGAWA
CHECKED BY: SMITH
SUBMITTED BY: James B. Cole

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
SIGNAL CORPS DETAILS

APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH

APPROVED: Leon J. Marcks CHIEF, ENGINEERING DIVISION

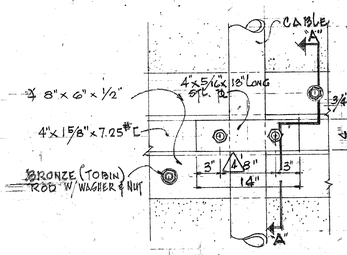
DATE 20 MAY 1959

APPROVED: Lt. Colonel, Corps of Engineers, District Engineer

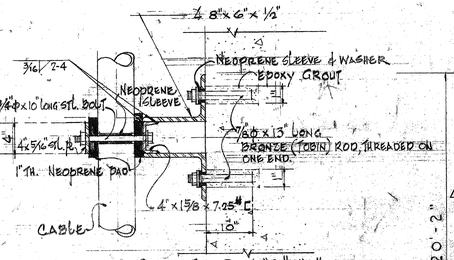
SCALE AS SHOWN

DRAWING NUMBER AS BUILT

SHEET 24 RH 9/64.24

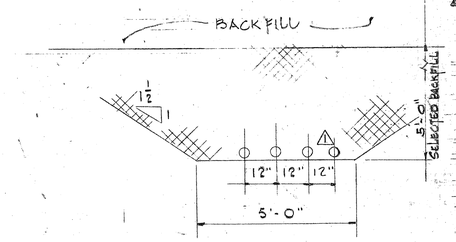


ELEVATION



SECTION "A"-"A"

BACK FILL TO EXISTING CHANNEL BOTTOM ELEVATION



SECTION THROUGH TRENCH (3/25/25)

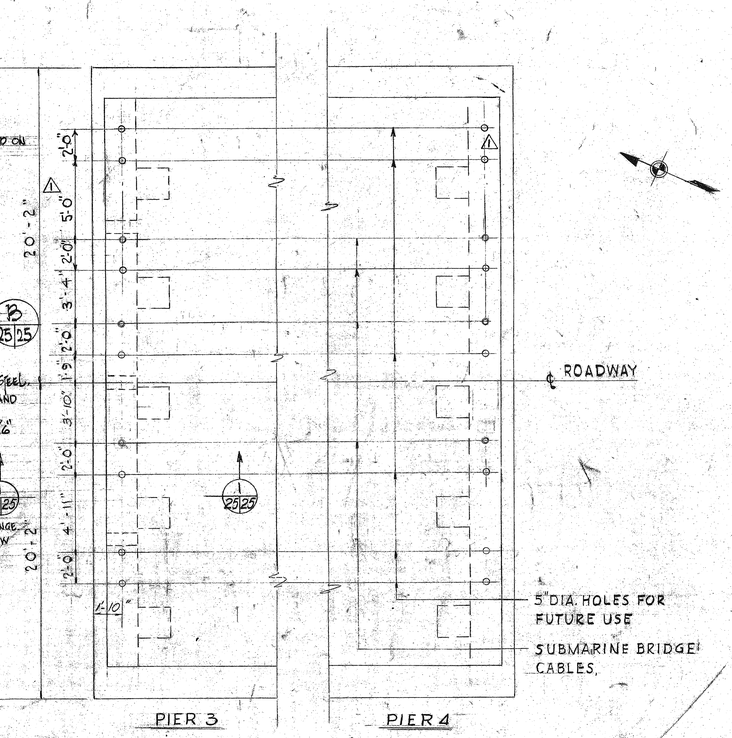
SCALE: ½"=1'-0"

SUBMARINE CABLE SUPPORT DETAILS (B/25/25)

SCALE: ¾"=1'-0"

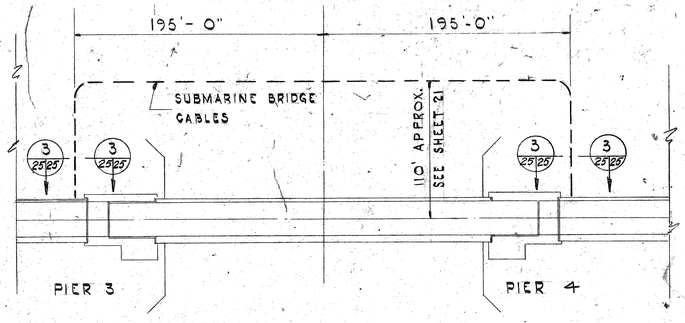
NOTES:

1. NO METAL TO METAL CONTACT BETWEEN BRONZE & STEEL.
2. NEOPRENE WASHERS TO BE OF 70 DUROMETER AND ⅛" TH'K.
3. NEOPRENE SLEEVE AROUND ⅝ø BOLTS TO BE 3/16" THICK; AND ¼" THICK AROUND ¾ø BOLTS.
4. NEOPRENE PADS TO BE OF 30 DUROMETER.
5. NEOPRENE PADS TO BE CEMENTED TO CHANNEL AND PLATE.
6. CHANNEL TO BE WELDED TO ⅄.
7. NEOPRENE PAD TO EXTEND 1" ABOVE UPPER FLANGE OF CHANNEL AND ½" BELOW LOWER FLANGE.
8. NEOPRENE PAD TO EXTEND ½" ABOVE AND BELOW TOP AND BOTTOM EDGES OF STEEL PLATE, RESPECTIVELY.



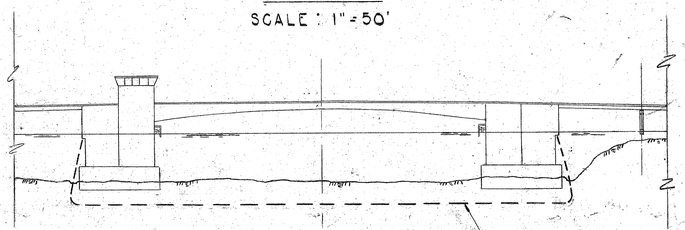
PLAN

SCALE: ¼"=1'-0"



PLAN

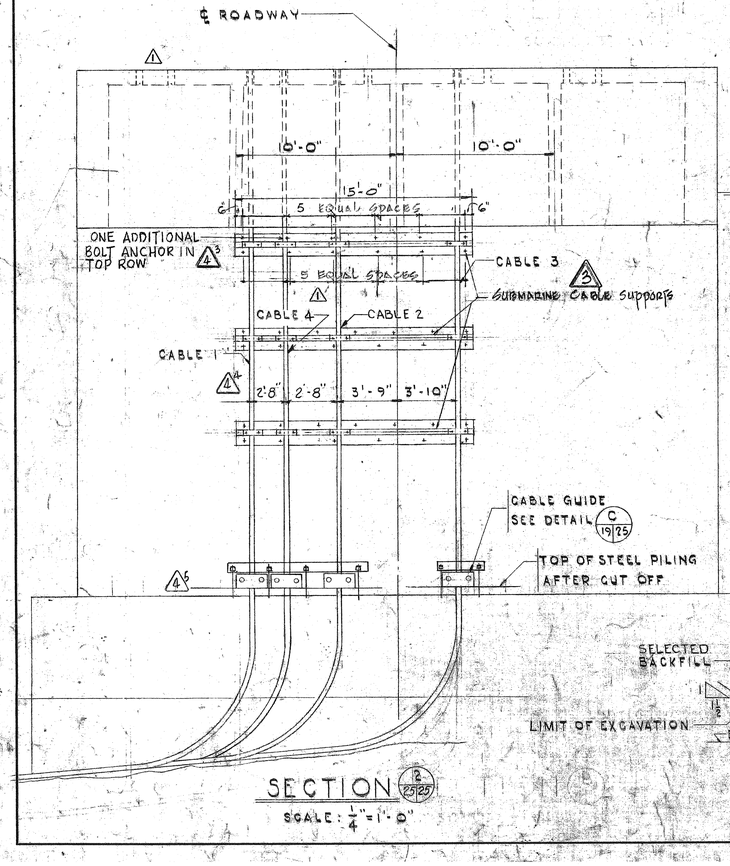
SCALE: 1"=50'



PROFILE

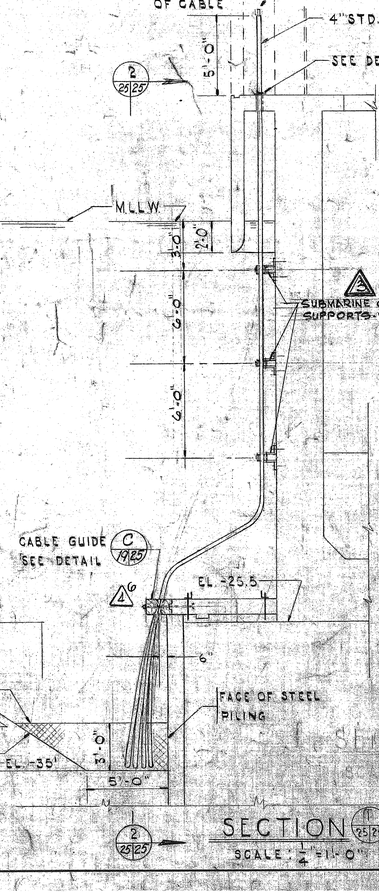
SCALE: 1"=50'

LOCATION MAP



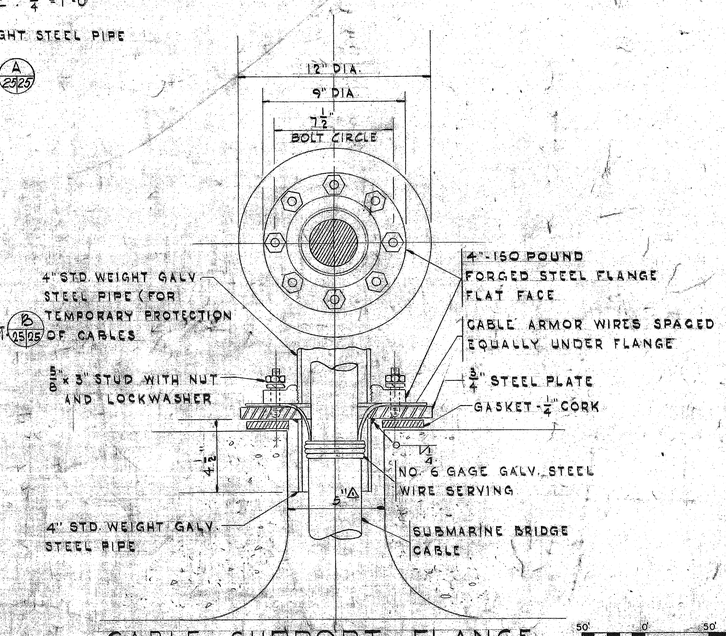
SECTION (2/25/25)

SCALE: ¼"=1'-0"



SECTION (2/25/25)

SCALE: ½"=1'-0"



CABLE SUPPORT FLANGE DETAIL (A/25/25)

SCALE 3"=1'-0"

AS BUILT

SYMBOL	DATE	DESCRIPTION	BY	CHKD	BY
4	3 Dec 59	AS BUILT REVISED DIMENSIONS SIZE OF BOLT AND ANGLES WITH ANCHOR BOLTS	R.T.		

GRAPHIC SCALE 1"=50'

GRAPHIC SCALE ¼"=1'-0"

GRAPHIC SCALE ½"=1'-0"

GRAPHIC SCALE 3"=1'-0"

DONALD C. RALSTON CONSULTING ENGINEER

SUBMARINE CABLE SCHEDULE

CABLE NO.	NO & SIZE (A.W.G.) OF CONDUCTORS
CABLE NO. 1	100 - NO. 12 1 - NO. 6
CABLE NO. 2	22 - NO. 8 4 - NO. 6
CABLE NO. 3	15 - NO. 2
CABLE NO. 4	100 - NO. 12 1 - NO. 6 (2)

NOTES:

1. ADDED CABLE NO. 4
2. ADDED 2-5" DIA. HOLES FOR FUTURE CABLE
3. RELOCATED 1-5" DIA. CABLE HOLE
4. REVISED 6" DIA CABLE HOLE, SHOWN IN CABLE SUPPORT FLANGE DETAIL, TO 5" DIA. CABLE HOLE

SYMBOL	DATE	DESCRIPTION	BY	CHKD	APP.
4	4/15/60	ADDED SUBMARINE CABLE SUPPORTS IN SECT 1/B/25 & 2/15/25; ADDED DETAILS B/3/25 AND NOTES	R.K.	DCR	
3	3/3/60	REVISED NO. & SIZE OF CONDUCTORS IN CABLE NO. 1 & 4	RC	CF	
2	21 AUG 1959	SEE NOTES ABOVE	S.H.E.	CF	

REVISIONS

LAW & WILSON — TUDOR ENGINEERING CO. ARCHITECTS & ENGINEERS — HONOLULU, SAN FRANCISCO

U.S. ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS — HONOLULU, T.H.

DRAWN BY: L.S.
TRACED BY:
CHECKED BY: DCR
SUBMITTED BY:

HONOLULU HARBOR OAHU, T.H.
SECOND ENTRANCE CHANNEL
BASCULE BRIDGE
BRIDGE SUBMARINE CABLE DETAILS

APPROVAL RECOMMENDED: CHIEF, PLANNING AND REPORTS BRANCH

APPROVED: CHIEF, ENGINEERING DIVISION

DATE 20 MAY 1959

APPROVED: LT. COLONEL, CORPS OF ENGINEERS, DISTRICT ENGINEER

SCALE AS SHOWN

DRAWING NUMBER

SHEET 25 RH 9/64.25