PWA 2013-F
UNIT 4

FED. NO.	STATE	FED. AID	PROJ.	TOTAL SHEETS
2	CAL			

IV S.F. 30 — 1 — 28

DISTR. ENGINEER — STRUCTURAL ENGINEER — LICENSE NO. 1515

February 20, 1939.

Lieut. Colonel, Corps of Engineers — 2084

Approved for Commanding General
9th Corps Area

Colonel, Corps of Engineers,
Engineer.

Type I
P.M. 7.1

4.00%

Marina Approach to Golden Gate Bridge.

Sta. 3+48.67 L
Elev. 130.07

Sta. 4+20.04 P.V.C.
Elev. 134.41

Sta. 4+47.50
Edge of Pavement
Elev. 133.34

44' V.C.

Transition Curve

Sta. 2+20.00 P.V.C.
Elev. 124.02

75' V.C.

Sta. 1+83.31
Elev. 122.19

+6.00%

℄ Profile

TOTAL LENGTH OF BRIDGE = 237'-6"

Sta. 1+58.31
Elev. 119.31

Sta. 1+30.33

Construct Curb and Railing on retaining wall.

Retaining Wall not a part of this contract

Sta. 1+30.33
Elev. 109.8
E.S.
Conc. Wall

Elev. 109.8

Elev. 107.5

Elev. 87.0
86.95

Datum Line Elev. 80.0

Note:- Approach fill not included in this contract.

87.95
Elev. 85.0

86.95
84.95

Elev. 75.0
75.40

77.65

64.90
Elev. 65.0

77.40
Elev. 43.5

ELEVATION

B.M. No. 10
Elevation 116.860
Located on Southwest Anchor Bolt on South side of Pier No. 1
60' Rt. Sta. Y, 66+20

Double Illum. Sign.
Not a part of this contract.

Expansion Joint
Sta. 3+78.75 G.G. & L.D.

45°-5½'
(Arc Lengths)

45°-5½'

Approach to Golden Gate Bridge

Avenue

78'-0"

Elev. of Footing = 108.8

24'-0"

Approximate toe of Slope

Sta. 2+20.00
Elev. 124.02

Date
Closed
2" Open Joint

ROADWAY
24'-0"

Sta. 4+51.50
Elev. 133.34

3+00

4+00

Electrolier

Paint "Bridge No. 34-20" in neat block letters 24" high on top of curb.

PLAN

Move existing Catch Basin and connect to existing drain pipe. For Details see Sheet No. 21

5+00

Note:- For Curve Data see Sheet No. 3.
For lengths of girders and diaphragms and position of footings see Sheet No. 3.

Sta. 5+46.67 ℄ Curve
Sta. 5+76.70 P.O.T.
G.G. & L.D.

8'-0"

TO MARINA

℄ Lines
TO SANTA CRUZ
Electrolier

Reinforced Concrete Retaining Wall
(Not a part of this contract)

475.06

Curb & railing to be constructed on retaining wall.

Sta. 3+76.33

Lincoln

U. S. DEPT. OF COMMERCE
P.W.A. 2013-F Calif. Unit 4
Contract accepted July 6, 1940

AS BUILT PLANS
Contract No. 04wc9
Date Completed
Document No. 4000256

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Foundation Plan	2
General Dimensions & Elevations	3
Deck Profile	4
Bent No. 2	5
Bent No. 3	6
Bent No. 4	7
Bent No. 5	8
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Girder Details A_1, A_2, & A_3	10
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Girder Details C_1 & D_1, E_1, C_2 - D_2	14
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For GENERAL NOTES see Sheet No. 8

Presidio Via Route

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

EUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE

IN SAN FRANCISCO
SAN FRANCISCO COUNTY

VIADUCT "F"
GENERAL PLAN

SCALE 1"=20'-0" — DRAWING NO. C-919 1

#34-40 #

DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
BRIDGE DEPARTMENT

F.A. 1938	
Roll. 1-39	
Conc. 11-30	
Mas. 12-40	
Met. 2-39	
Field 2-39	
Lin. 2-39	

Checked

PWA 2013-F
UNIT 4

FED. ROAD DIST. NO.	STATE	ROUTE NO.	SHEET NO.	SHEETS	SHEET NO.
2	CAL.				

DIST.	COUNTY	ROUTE	CONTRACT	SHEET	SHEETS
IV	S.F.	56	6-F	2	29

BRIDGE ENGINEER — CIVIL ENGINEER-ELECTRIC 5414

APPROVED: February 20, 1939

Approved for Commanding General
9th Corps Area
[illegible]
Colonel, Corps of Engineers
Engineer

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
BRIDGE DEPARTMENT

Drawn by	Name
Designed by	E.J. 12-37
Checked by	AM 12-38
Name by	FM 10-38
Traced by	
Checked by	JDV 12-39
Compared by	JDV 12-39
Quantity Chk.	WH 12-39

Approved
[illegible]
State Bridge Engineer

Corres. Sheets Correct

Scale: 1" = 20'

Presidio Via - Ramp

FULTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE VIADUCT "F"

FOUNDATION PLAN

SCALE: 1" = 20' | FILE NO.

BRIDGE NO. 34-40 | DRAWING NO. C-918

#34-40

AS BUILT PLANS
Contract No 04WC9
Date Completed
Document No 400025512

PWA 2013-F
UNIT 4
2 CAL.
IV S.F. 56 S.F. 3 28
Feb. 20, 1939
Approved for Commanding General
Ninth Corps Area
Colonel, Corps of Engineers, Engineer
BRIDGE DEPARTMENT
GENERAL DIMENSIONS
R = 299.02'
Δ = 104° 47' 15"
T = 388.20'
L = 546.87'
Semi-Tangent From ℄ Viaduct = 18' Rt. of ℄ of G.G. Br. & H.D.
Edge of slab of Golden Gate Bridge
℄ Bent #2
℄ Bent #3
℄ Bent #4
℄ Bent #5
℄ of G.G. Br.
Sta. 2+20.0
Sta. 2+44.0
Sta. 3+22.0
Sta. 3+67.46
Sta. 4+12.92
Sta. 4+20.15
Sta. 29+83.35 on G.G. Br. & H.D.
Sta. 29+87.59 on G.G. Br. & H.D.
Sta. 4+57.50
Sta. 4+73.17 ℄ Column Bent No. 6
Sta. 30+14.36 = 4+98.596
Fixed End. Open joint.
℄ Viaduct
℄ Girder
DECK ELEVATIONS
Toe of curb
Sta. 2+38.02
Sta. 3+82.04 B.V.C.
Sta. 4+26.04 B.V.C. Beginning Vertical Transition Curve
Sta. 30+32.60 on G.G. Br. & H.D.
Sta. 5+48.67 E.C. Sta. 30+64.10 P.O.T. on G.G. Br. & H.D.
KEY TO GIRDER LAYOUT
Key to Deck Quantity Calculations
Sheet No. | Girder
10 — A1-A2-A3
11 — B1
12 — B2
13 — B3
14 — C1-D1-E1-C3-D3
15 — C2
16 — D2-E2
17 — D3-E3
18 — E1-F1-F2
AS BUILT
Contract accepted July 5, 1940
AS BUILT PLANS
Contract No 04wc9
Date Completed
Document No 40002556
#34-40
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
GENERAL DIMENSIONS & ELEVATIONS
SCALE 1" = 10'-0"
BRIDGE NO. 3

PWA 2013-F
UNIT 4
FED. ROAD DIST. NO. 2
STATE CAL.
DIST. IV
COUNTY S.F.
ROUTE 56
SHEET NO. 4
TOTAL SHEETS 28
BRIDGE ENGINEER
STRUCTURAL ENGINEER—LICENSE 1414
APPROVED Feb. 20, 1939
Approved For Commanding General, Ninth Corps Area.
Colonel, Corps of Engineers, Engineer.
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
BRIDGE DEPARTMENT
3"x8"x12'-0"
8"x8"x3'-0" post
8"x8" brace
2-3"x8"x12'-0" scabs
Flares to be located as shown on plan.
5/8"φ x 1'-7" bolt, countersunk.
8"x10"x12'-0" wheelguard
2-3"x8"x3'-7½"
END ELEVATION
FRONT ELEVATION
5'-5"
7"
CONSTRUCTION BARRICADE
Notes:
Profile - North Gutter Line
℄ Profile
Profile - South Gutter Line
+5.86% on ℄ Distance
+6.00%
+6.13% on ℄ Distance
El. 134.26
El. 133.74
El. 133.21
El. 134.47
El. 134.27
El. 133.97
El. 131.85
El. 130.07
El. 129.86
Back Tangent
Face of P.N. Sta. 2+20.09 El. 124.02
Face of Paving Notch Sta. +98.2 El. 121.94
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
2+00
3+00
5+00
10
20
30
40
50
60
70
80
90
ROADWAY SLAB GRADES
Scale
Temporary construction barricade during first stage.
Flares
Permanent construction barricade during second stage, to be left in place.
℄ Viaduct
PLAN OF BARRICADES
Scale: 1" = 20'-0"
Checked by
Designed by
L.C. Hollister
Engineer of Design
Structural Engineer
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556
AS BUILT
CONTRACT 04-09-04WC04
F.A. 2013-F Calif. Unit 4
Contract accepted July 6, 1940
34-40
Presidio V. Ramp
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
ROADWAY SLAB GRADES
SCALE: As Shown
FILE NO.
BRIDGE NO. 34-20
DRAWING NO. C-918-A

PWA 2013-F
UNIT 4

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
IV	SF	56	S	9	28

February 20, 1939

Approved for Commanding General
Ninth Corps Area:
Colonel, Corps of Engineers
Engineer

AS BUILT PLANS
Contract No. 04 4cc 9
Date Completed
Document No. 4000246

BRIDGE DEPARTMENT

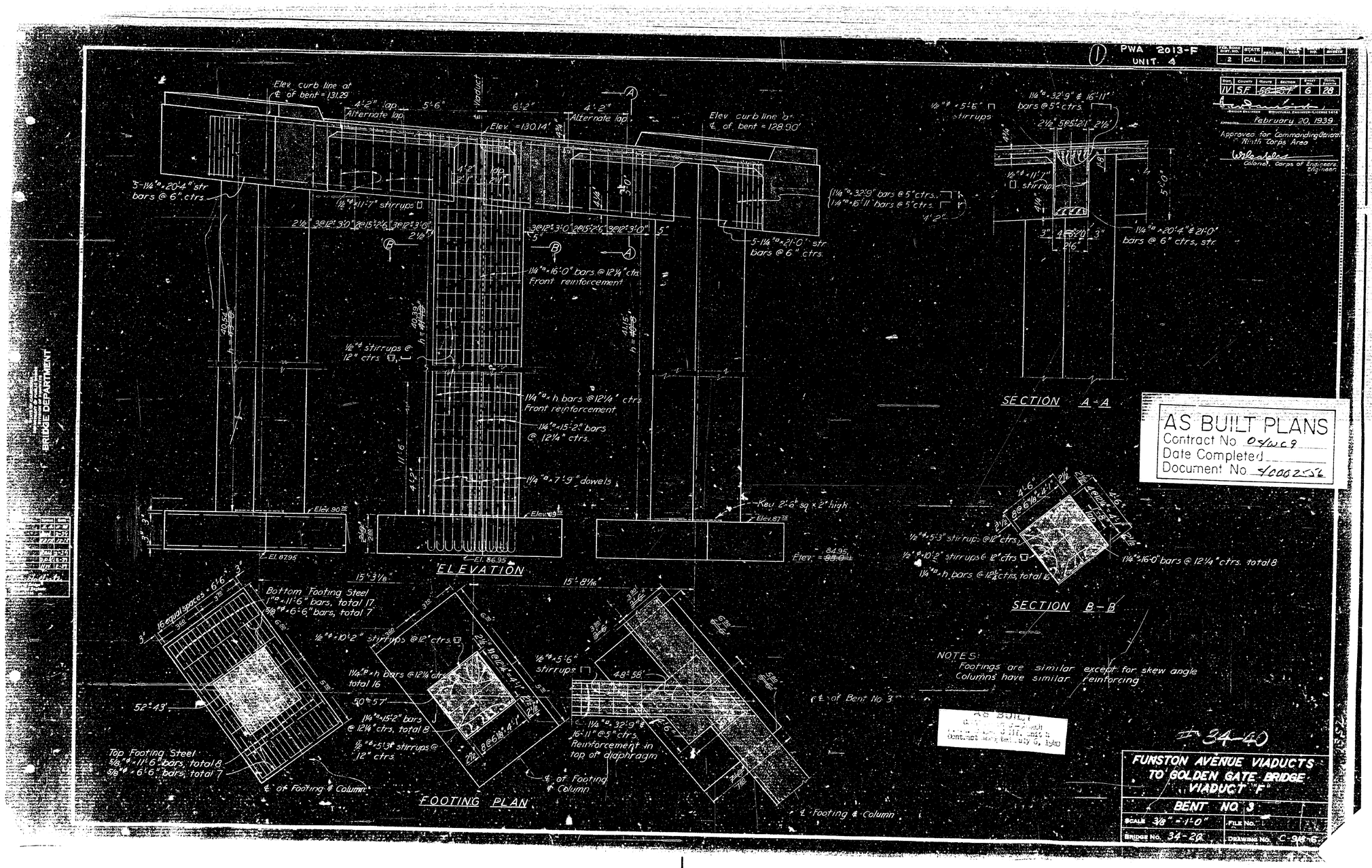
Elev. Curb at ℄ Bent = 127.07'
4'-2" splice
Alternate splice
7'-9"±
Welded
Elev. = 125.46'
9'-11"±
4'-2" splice
Alternate splice
Elev. Curb line @ ℄ of Bent = 123.65'
(6-1¼"□ × 41'-10" bars @ 5" ctrs
(6-1¼"□ × 20'-0" bars @ 5" ctrs
4'-2"
½"□ × 5'-6" stirrups
1½"□ × 41'-10" & 20'-0" bars @ 5" ctrs
2½" 3@5'-2½" 2½"
February 20, 1939
Approved for Commanding General Ninth Corps Area:
Colonel, Corps of Engineers Engineer
5'-1¼"□ × 25'-8" str. bars @ 6" ctrs.
1½"□ × 11'-7" stirrups
2" splice
1¼"□ × 14'-0" bars @ 12¼" ctrs. total 8
5'-1¼"□ × 27'-10" bars @ 6" ctrs
7" 3@12"=3'-0" 5 spaces @ 15"=6'-3" 3@12"=3'-0" 7"
3@12"=3'-0" 7 spaces @ 15"=8'-9" 3@12"=3'-0" 2"
5'-1¼"□ × h bars @ 12¼" ctrs Front reinforcement
½"□ stirrups @ 12" ctrs
1¼"□ × 13'-8" bars @ 12¼" ctrs Total 8
½"□ stirrups 11'-7" lg. 0
1¼"□ × 27'-10" & 25'-8" bars @ 6" ctrs str.
3" 4@6"=2'-0" 3"
SECTION A-A
Key each column 2'-6" square
1¼"□ × 7'-9" dowels
Elev. 99.75
Elev. = 96.95 (87.0)'
ELEVATION
1½"□ × 10'-2" stirrups @ 12" ctrs
½"□ × 5'-3" stirrups @ 12" ctrs
1¼"□ × 14'-0" bars @ 12¼" ctrs. at the top, total 8
1¼"□ × th bars @ 12¼" ctrs str, total 16
SECTION B-B
Bottom Footing Steel
1"□ × 11'-6" bars, total 17
⅝"□ × 6'-6" bars, total 7
Top Footing Steel
1"□ × 11'-6" bars, total 8
⅝"□ × 6'-6" bars, total 7
1¼"□ bars @ 6" ctrs
1¼"□ × 13'-8" bars @ 12¼" ctrs at bottom, total 8
1¼"□ × h bars @ 12¼" ctrs total 16
℄ Footing & Column
Diaphragm top reinforcement
6-1¼"□ bars @ 5" ctrs
½"□ × 5'-6" stirrups
32"×34" ½"□ × 11'-7" stirrups
Outside Face
℄ Bent No. 2
FOOTING PLAN
NOTES:
Reinforcing in bottom of diaphragm...
Footings are similar except for skew angle.
Columns have similar reinforcing

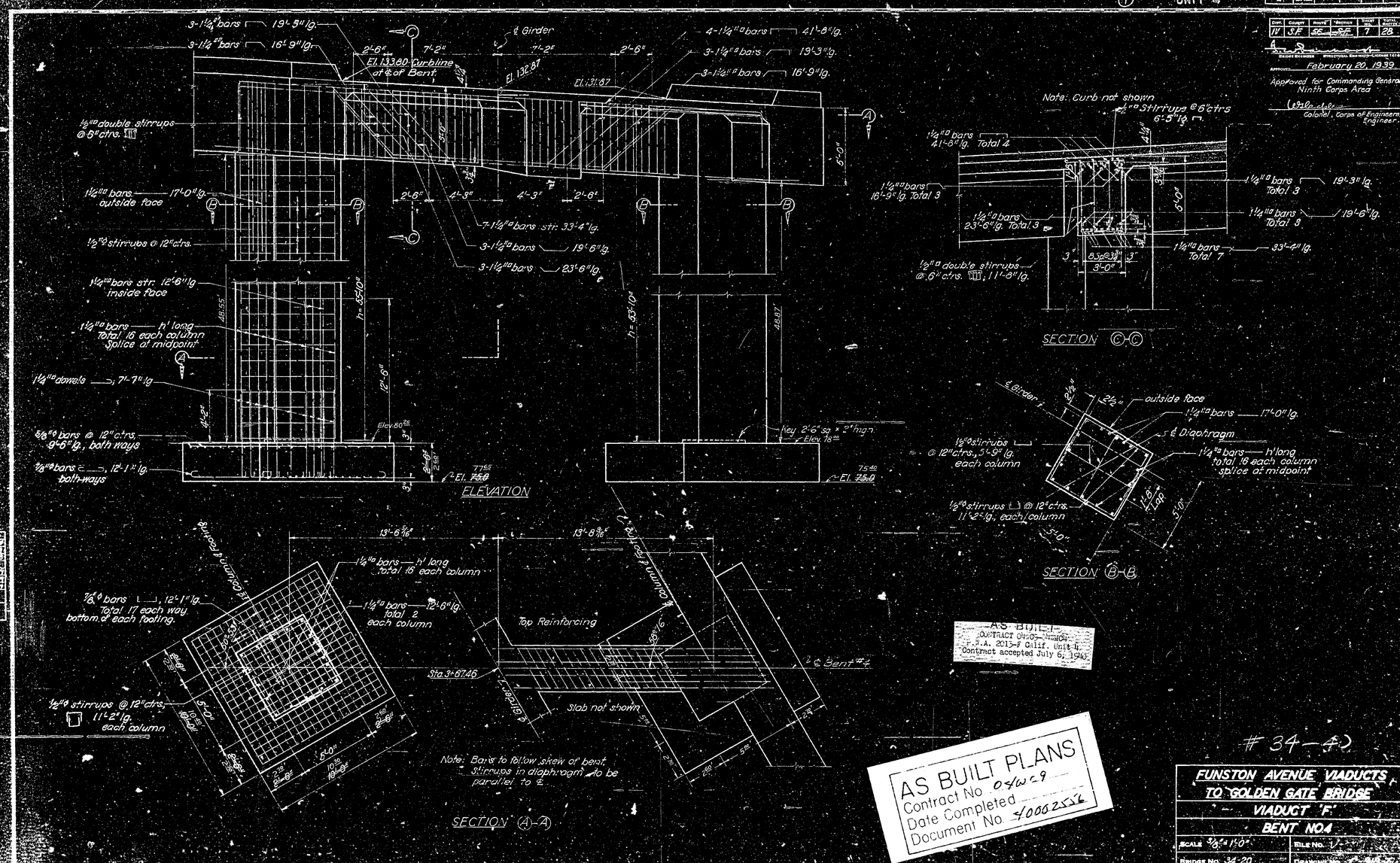
AS BUILT
Revised to conform to
P.W.A. 613-F 6-112, Unit 4
contract completed July 5, 1940

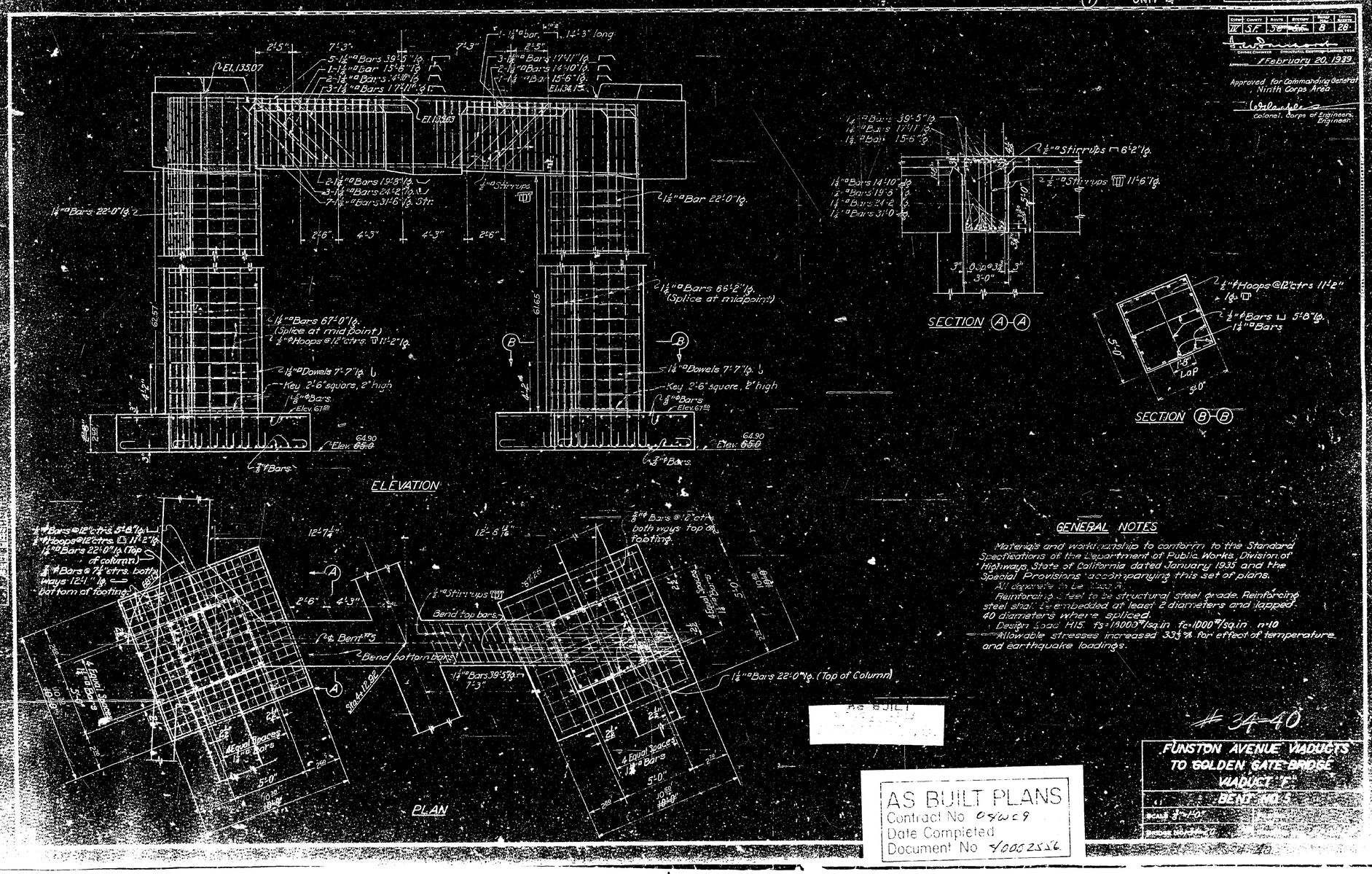
#34-40

"FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
BENT NO. 2

SCALE 3/8" = 1'-0"	FILE NO.
BRIDGE NO. 34-20	DRAWING NO. C-914-6


PWA 2013-F
UNIT 4
FOR BOND DIST. NO. 2
STATE CAL.
DIST. IV
COUNTY SF
ROUTE 56
SECTION 23-F
SHEET NO. 6
TOTAL SHEETS 28
February 20, 1939
Approved for Commanding General Ninth Corps Area
Colonel, Corps of Engineers, Engineer.
Elev. curb line at ℄ of bent = 131.29
Elev. = 130.14'
Elev. curb line at ℄ of bent = 128.90'
Alternate lap
5-1¼"□ × 20'-4" str bars @ 6" ctrs.
½"φ × 11'-7" stirrups
1¼"□ × 16'-0" bars @ 12¼" ctrs. Front reinforcement
½"φ stirrups @ 12" ctrs.
1¼"□ × h bars @ 12¼" ctrs. Front reinforcement
1¼"□ × 15'-2" bars @ 12¼" ctrs.
1¼"□ × 7'-9" dowels
5-1¼"□ × 21'-0" str bars @ 6" ctrs.
1¼"□ × 32'-9" bars @ 5" ctrs.
1¼"□ × 16'-11" bars @ 5" ctrs.
½"φ × 5'-6" stirrups
1¼"□ × 32'-9" & 16'-11" bars @ 5" ctrs.
1¼"□ × 20'-4" & 21'-0" bars @ 6" ctrs. str
SECTION A-A
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 4000256
Key 2'-6" sq × 2" high
ELEVATION
SECTION B-B
Bottom Footing Steel
1"□ × 11'-6" bars, total 17
⅝"φ × 6'-6" bars, total 7
½"φ × 10'-2" stirrups @ 12" ctrs.
1¼"□ × h bars @ 12¼" ctrs. total 16
1¼"□ × 15'-2" bars @ 12¼" ctrs. total 8
½"φ × 5'-3" stirrups @ 12" ctrs.
½"φ × 5'-6" stirrups
1¼"□ × 32'-9" & 16'-11" @ 5" ctrs. Reinforcement in top of diaphragm
Top Footing Steel
⅝"φ × 11'-6" bars, total 8
⅝"φ × 6'-6" bars, total 7
℄ of Footing & Column
FOOTING PLAN
NOTES:
Footings are similar except for skew angle
Columns have similar reinforcing
℄ of Bent No. 3
#34-40
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE VIADUCT "F"
BENT NO. 3
SCALE 3/8" = 1'-0"
FILE NO.
BRIDGE NO. 34-20
DRAWING NO. C-918-6
BRIDGE DEPARTMENT


PWA 2013-F
UNIT 4
February 20, 1939
Approved for Commanding General Ninth Corps Area
Colonel, Corps of Engineers, Engineer.
ELEVATION
SECTION (C)-(C)
SECTION (B)-(B)
SECTION (A)-(A)
Note: Curb not shown
Note: Bars to follow skew of bent. Stirrups in diaphragm to be parallel to ℄.
Top Reinforcing
Slab not shown
AS BUILT
CONTRACT 04WC9-MWHC4
P.W.A. 2013-F Calif. Unit 4
Contract accepted July 6, 1940
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556
#34-40
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT 'F'
BENT NO.4
SCALE 3/8"=1'-0"
BRIDGE NO. 34-20


PWA 2013-F
UNIT 4
February 20, 1939
Approved for Commanding General Ninth Corps Area
Colonel, Corps of Engineers, Engineer
ELEVATION
SECTION A-A
SECTION B-B
PLAN
GENERAL NOTES
Materials and workmanship to conform to the Standard Specifications of the Department of Public Works, Division of Highways, State of California dated January 1935 and the Special Provisions accompanying this set of plans.
All concrete to be Class A.
Reinforcing steel to be structural steel grade. Reinforcing steel shall be embedded at least 2 diameters and lapped 40 diameters where spliced.
Design Load H15. fs=18000#/sq.in. fc=1000#/sq.in. n=10
Allowable stresses increased 33⅓% for effect of temperature and earthquake loadings.
#34-40
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "E"
BENT NO. 5
AS BUILT PLANS
Contract No 04WC9
Date Completed
Document No 40002556

PWA 2013-F
UNIT 4

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
2	CAL				
IV	S.F.	35	E	9	28

Bridge Engineer. Structural Engineer-License 2414

Approved Feb 20 1939

Approved for Commanding General
Ninth Corps Area

Colonel, Corps of Engineers,
Engineer.

BRIDGE DEPARTMENT
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

Designed by	Drawing
Detailed by	
Traced by	
Checked by	
Quantities by	
Submitted by	
Recommended by	
Approved by	

F. C. Blaisdell
Bridge Engineer

Bridge Design Engineer
License 1196

4"ϕ hole thru West side 6"± above diaphragms.
thru East side 6"± below diaphragms.

9"ϕ hole thru each diaphragm.

9-1⅛"ϕ bars (F) 35'-2" lg.

5-1⅛"ϕ bars (F) 35'-2" lg.

⅝"ϕ bars (G) @12" ctrs., 10'-0" lg.

⅝"ϕ bars (J) 8'-3" lg. 14 at each diaphragm.

Construction joint below each diaphragm.

⅝"ϕ bars (H) @12" ctrs., 6'-0" lg.

½"ϕ bars

1¼"ϕ dowels @ 8'-1" lg.

4"ϕ drain

5-1¼"ϕ (Q) bars 36'-2" lg.

4-1¼"ϕ (P) bars 16'-0" lg.

¾"ϕ (C) bars @12" ctrs., 15'-6" lg.

¾"ϕ (D) bars @12" ctrs., 8'-6" lg.

¾"ϕ (A) bars @6" ctrs., 18'-0" lg.

¾"ϕ (B) bars @9" ctrs., 10'-1" lg.

Elev. 47.40
Elev. 49.3

El. 178.67
El. 62.67
El. 50.83
El. 94.67
Elev. 132.65 at �℄ Pier
Elev. 125.83

Lap 4'-2"

17'-0"
8'-9"

SECTIONAL ELEVATION THROUGH BENT

⅝"ϕ (G) bars ⌐ @12" ctrs. top and bottom 13'-0" lg.

4"ϕ hole thru each diaphragm.

1½"ϕ (J) bars Total - 20.

¾"ϕ (G) bars @12" ctrs. top & bottom 13'-0" lg.

⅝"ϕ bars (E) Str. 3'-0" lg. Spaced between ¾" bars.

F.S. steel not noted see Section B-B

DETAIL OF DIAPHRAGM

Note: Horizontal bars same as in Section A-A.

½"ϕ (D) bars Total - 14.

SECTION (B)—(B)

1"ϕ (M) bars 12'-6" lg.

1¼"ϕ (R) bars Total - 10.

Elev. 132.85

1¼"ϕ (S) bars 28'-9" lg.

VIEW (C)—(C)

½"ϕ bars (P) @12" ctrs 14'-11" lg.

1½"ϕ bars Total - 28

½"ϕ bars (K) @15" ctrs. 9'-7" lg.

1⅛"ϕ (L) bars Total - 14.

½"ϕ bars (N) @15" ctrs. 9'-4" lg.

SECTION (A)—(A)

AS BUILT

⅝"ϕ (C) bars Str. @12" ctrs. 16'-6" lg. Total - 10.

1¼"ϕ dowel @ 8'-1" lg. One for each 2 bar. Total - 28.

Top Reinforcement

Bottom Reinforcement

¾"ϕ (E) bars Str. @12" ctrs. 9'-6" lg. 17

¾"ϕ (B) bars @9" ctrs. 11'-1" lg. Total - 23.

1"ϕ @ 6 bars @ 6" ctrs., 19'-0" lg. Total - 20.

PLAN OF FOOTING

AS BUILT PLANS
Contract No 04WC9
Date Completed
Document No 41002556

34-40

FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
BENT NO. 6

Scale: ¾" = 1'-0"
File No.
Bridge No. 34-40
Drawing No. E-10-F

PWA 101
UNIT 4

Dist.	County	Route	Section	Sheet No.	Total Sheets
IV	S.F.	[illegible]	[illegible]	10	28

District Engineer — Structural Designs — License 1618

Approved February 20, 1939.

Approved for Commanding General, Ninth Corps Area

[signature]
Chief, Corps of Engineers, Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
BRIDGE DEPARTMENT

Designed	Detailed
[illegible]	[illegible]
Checked	Checked
[illegible]	[illegible]
Quantities	Checked
[illegible]	[illegible]

[signature]
Bridge Engineer

Approved [illegible]
Chief of Division of Highways
Sacramento 1938

3-1¼"ⓚ bars, 43'-0" long
3-1¼"ⓖ bars, 46'-4" long
3-1¼"ⓘ bars, 43'-0" long
3-1¼"ⓔ bars, str., 27'-0" long
3-1¼"ⓒ bars, 25'-6" long
3-1¼"ⓐ bars, str., 21'-0" long
3-1¼"ⓚ bars, 23'-0" long

2-⅞"ⓑ bars, str., 14'-0" long
2-⅞"ⓓ bars, str., 24'-0" long

½" Single Stirrup 12'-8" long

½" Double Stirrups 11'-9" long

24'-0"

℄ Bent No. 2

GIRDER "A2"
Scale ⅜"=1'-0"

SECTION NEAR BENT NO. 2
GIRDER "A2"
Scale ⅜"=1'-0"

3-1¼"ⓚ bars, 43'-0" long
3-1¼"ⓖ bars, 46'-4" long
3-1¼"ⓘ bars, 40'-0" long
3-1¼"ⓔ bars, str., 25'-0" long
2-1¼"ⓒ bars, 25'-6" long
2-1¼"ⓐ bars, 21'-6" long

2-⅞"ⓑ bars, str., 14'-0" long
2-⅞"ⓓ bars, str., 24'-0" long

℄ Column

½" Single Stirrup 12'-8" long

½" Double Stirrups 11'-9" long

2-1¼"ⓖ bars, str., 16'-0" long
3-1¼"ⓘ bars, str., 45'-0" long

℄ Bent No. 2

GIRDER "A3"
Scale ⅜"=1'-0"

Note: Section along ℄ of girder.

SECTION NEAR BENT NO. 2
GIRDER "A3"
Scale ⅜"=1'-0"

3-1¼"ⓚ bars, 47'-6" long
3-1¼"ⓖ bars, 46'-4" long
3-1¼"ⓘ bars, 45'-6" long
3-1¼"ⓔ bars, str., 29'-0" long
3-1¼"ⓒ bars, 31'-6" long
3-1¼"ⓐ bars, str., 27'-6" long
2-1¼"ⓚ bars, 27'-0" long

2-⅞"ⓑ bars, str., 14'-0" long
2-⅞"ⓓ bars, str., 24'-0" long

℄ Column

½" Single Stirrup 12'-8" long

½" Double Stirrups 11'-9" long

27'-1⅛"

℄ Bent No. 2

GIRDER "A1"
Scale ⅜"=1'-0"

6-¾"ⓓ bars, str., 14'-0" long
3-1¼"ⓑ bars, str., 18'-0" long
4-¾"ⓔ bars, str., 45'-0" long

No. 3 Section along ℄ of girder.
For cross section thru girder see sheet no. 11

℄ Bent No. 2

Note: Soffits of Girders, Diaphragms and Caps are parallel to deck slab and intersect on a common plane.

AS BUILT

AS BUILT PLANS
Contract No 04WC9
Date Completed
Document No 4000256

34-40

FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT F
GIRDER "A1", "A2" & "A3" DETAILS
SCALE As shown
Plan No. 10
Bridge No. [illegible]
Drawing No. C-510-F

PWA 2013-F
UNIT 4

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
4	S.F.	56	8-F	11	88

Approved for Commanding General
Ninth Corps Area
Colonel, Corps of Engineers, Engineer
Approved Feb. 20, 1939

3-1⅛" ⓕ bars — 47'-6" lg.
3-1⅛" ⓖ bars — 43'-11" lg.
3-1⅛" ⓘ bars — 45'-6" lg.
3-1⅛" ⓛ bars — 29'-2" lg.
3-1⅛" ⓜ bars — 31'-5" lg.
3-1⅛" ⓝ bars — 20'-11" lg.
2-1⅛" ⓞ bars — 23'-0" lg.

3-1⅛" ⓐ bars — 41'-0" lg.
3-1⅛" ⓑ bars — 45'-0" lg.
3-1⅛" ⓒ bars — 45'-0" lg.
3-1⅛" ⓔ bars — 30'-0" lg.
3-1⅛" ⓗ bars — 42'-0" lg.
3-1⅛" ⓙ bars — 23'-0" lg.

4-1" bars — 45'-0" lg.
4-⅞" bars — 8'-4" lg.
½" Stirrups @ Const. Joint 11'-9" lg.
6 Spcs. @ 2'-6"
Note: All stirrups #2" Double ⊞, except as noted.
Splice ⓖ bars
Splice ⓐ bars
Splice ⓗ bars
(Add for splices as shown)
2-1⅛" ⓟ bars — 45'-0" lg.
2-1⅛" ⓠ bars — 57'-0" lg.
4-1⅛" ⓡ bars — 45'-0" lg.
2-1⅛" ⓢ bars — 67'-7" lg.
3-1⅛" ⓣ bars — 77'-3" lg.
4-1⅛" ⓤ bars — 45'-0" lg.
1-1⅛" ⓥ bars — 19'-3" lg.
4-1⅛" ⓦ bar — 14'-0" lg.
℄ Column
℄ Bent
℄ Girder
3 Spcs. @ 2'-0"
3 Spcs. @ 1'-4"
5 Spcs. @ 1'-0"
5 Spcs. @ 10"
6 Spcs. @ 8"
2 #8 bars, str. 14'-0½" lg.
2 #8 bars, str. 24'-0½" lg.
6-1⅛" ⓧ bars — 5'-3" lg.
2-¾" ⓨ bars, str. 14'-0½" lg.
2-¾" ⓩ bars, str. 24'-0½" lg.
4-1⅛" ⓐ bars — 45'-0" lg.
3-1⅛" ⓑ bars — 18'-0" lg.
3¼" ϕ bars — 6'-6" lg. @ 12" ctrs.
Splice 4'-2"
Splice 3'-6"
Splice 4'-0"
Splice 5'-6"
Splice 7'-0"
Splice 2'-11"
Splice 3'-6"

Note: Torsion bars are symmetrical about ℄ of girder except as shown.
In Elevation: ——— indicates near face.
" " ——— " far "
In Plan: ——— " top "
" " ——— " bottom "

DETAILS OF TORSION BARS
ELEVATIONS
PLAN
DETAILS OF GIRDER B,

Elevation
Right Side of Girder.
Torsion Bar Left Side of Girder.
Plan
Details of Torsion Bars Right & Left Sides.
3¼" ϕ bars — 34'-6" lg. @ 12" ctrs.
82'-9"
27'-6"
28'-2⅝"
27'-0⅜"
18'-10⅛"
Construction joint
℄ Bent #2
℄ Bent #3
14 Spcs. @ 1'-0"
7 Spcs. @ 1'-3"
5 Spcs. @ 1'-6"
3 Spcs. @ 1'-9"
4'-0"
8'-0"
17 Spcs. @ 1'-0"
½" Stirrups
8 ¾" bars
8 equal spaces
Torsion bars
SECTION A-A
SECTION B-B'
SECTION C-C

Note: Soffits of Girders, Diaphragms and Caps are parallel to deck slab and intersect on a common plane.

AS BUILT
Contract completed July 5, 1940

#34-40

FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT 7
GIRDER B, DETAILS
SCALE ⅜" = 1'-0" | FILE NO.
BRIDGE NO. 34-20 | DRAWING NO. (E-9)8-71

BRIDGE DEPARTMENT
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

Revised	Date
Quantities	4-14
Steel	1-15
Title	12-38
Steel	12-14
Quantities	2-38
Title	12-39

Chief Bridge Engineer

AS BUILT PLANS
Contract No. 04-SF-56
Date Completed
Document No. 1003254

PWA 20123-F
UNIT 4

Approved for Commanding General
Ninth Corps Area
Wheeler
Colonel, Corps of Engineers
Engineer

February 20, 1939

Dist.	County	Route	Section	Sheet No.	Sheets
IV	S.F.			12	28

BRIDGE DEPARTMENT

4-1¼"a bars, 45'-0" long
3-1¼"g bars, 46'-4" long
3-1¼"h bars, 43'-0" long
3-1¼"k bars, str., 27'-0" long
3-1¼"f bars, 25'-6" long
9-1¼"k bars, str., 21'-0" long
3-1¼"l bars, 23'-0" long

Splice 3'-6"
21'-5"

4-1"e bars, str. 43'-6" long

4-⅝"c bars @ 8'-4" long
⅝" Stirrups @ Const. joint
11'-9" long

2-2¾"n bars, str. 14'-0" lg.
2-2¾"n bars, str. 24'-9" lg.

7-1¼"m bars, str. 14'-0" long
3-1¼"m bars, str. 18'-0" long
4-1¼"m bars, str., 45'-0" long

3-1¼"a bars, 41'-0" long
3-1¼"b bars, 52'-0" long
3-1¼"c bars, 63'-0" long
3-1¼"d bars, 74'-0" long
4-1¼"e bars, str., 45'-0" long

Splice 1-ⓖ bar
2-ⓔ bars

Add for splices as shown

3-1¼"a bars, 43'-0" long
3-1¼"b bars, str., 45'-0" long
3-1¼"c bars, 33'-0" long
3-1¼"d bars, str., 37'-0" long
3-1¼"e bars, str., 30'-0" long
3-1¼"f bars, str., 23'-0" long
2-1¼"g bars, 23'-0" long

4-1¼"e bars, str., 36'-0" long
3-1¼"c bars, str., 16'-0" long
9-1¼"c bars, str., 12'-0" long

2-2¾"n bars, str. 14'-0" lg.
2-2¾"n bars, str. 24'-0" lg.

6'-0" 3'-0" 3'-0" 2'-0" 4'-6" 5'-6" 5'-6" 5'-6" 4'-2" 4'-2" 4'-2" 5'-6" 5'-0" 7'-0"

5'-6" 4'-2" 5'-3" 4'-2" 4'-2" 4'-2" 5'-6" 2'-0" 6'-0"

Splice ⓒ bars Splice ⓓ bars Splice 2-ⓑ bars 1-ⓘ bar
Splice 1-ⓖ bar 2-ⓔ bars Splice ⓕ bars Splice ⓔ bars

15'-0" 15'-0"

2)1'-4" 3 Spa. @ 1'-4" 3 Spaces @ 2'-0" 6 Spaces @ 2'-6" 2'-10" 6 Spaces @ 2'-6" 3 Spaces @ 2'-0" 3 Spa. @ 1'-4" 4 Spa. @ 1'-0" 2 Sp. @ 10" 2 Sp. @ 8" 2'-7"

4 Sp. @ 8" 4 Sp. @ 10" 4 Sp. @ 1'-0" 2'-7" 2'-0"

⅝" Double Stirrups, 11'-8" long

℄ Bent No. 2

℄ Bent No. 3

Note: For section near Bent No. 2 see sheet no. 10

Note: Torsion bars are symmetrical about ℄ of girder
In elevation: ——— indicates near face
——— for top
In plan: ——— bottom

DETAILS OF TORSION BARS
ELEVATIONS

78'-0"
26'-0" 26'-0" 26'-0"
3 Sp. @ 1'-3" 5 Sp. @ 1'-6" 7 Sp. @ 1'-3" 12 Sp. @ 1'-0"
Construction joint
Details of Torsion Bars See Sheet #11

℄ Girder

PLAN
DETAILS OF GIRDER 'B2'
Scale: ¾"=1'-0"

Torsion bars
1"ø bars
SECTION ⓒ NEAR CENTER
Scale: 1"=1'-0"

Torsion bars
⅝" bars
SECTION NEAR BENT NO. 3
Scale: 1"=1'-0"

4⅛" bars 6'-6" long @ 45°
4⅛" bars, str. 6'-6" long @ 45°
Elevation
Plan

AS BUILT PLANS
Contract No. 04uc9
Date Completed
Document No. 400023x16

AS BUILT
CONTRACT NO. 04-04uc9
Prov. Air Sq. Calif. Unit 4
Contract Accepted July 6, 1940

Note: Soffits of Girders, Diaphragms and Caps are parallel to deck slab and intersection a common plane.

34-40

FUNSTON AVENUE VIADUCT TO GOLDEN GATE
VIADUCT
GIRDER DETAILS
SCALE As shown
BRIDGE NO. 34-20

PWA: 2813-F
UNIT 4

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
IV	S.F.	32	34-A	13	29

Approved for Commanding General
Ninth Corps Area
Colonel, Corps of Engineers
Engineer

Approved February 20, 1939

BRIDGE ENGINEER — STRUCTURAL ENGINEER-LICENSE 1414

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
BRIDGE DEPARTMENT

3-1¼"ⓒ bars, 43'-0" long
3-1¼"ⓓ bars, 46'-4" long
3-1¼"ⓔ bars, 21'-0" long
3-1¼"ⓕ bars, str., 25'-0" long
2-1¼"ⓘ bars, 25'-6" long
2-1¼"ⓚ bars, 22'-6" long

4-1¼"ⓐ bars, str. 45'-0" long
2-1¼"ⓑ bars, 41'-0" long
3-1¼"ⓒ bars, str. 35'-0" long
3-1¼"ⓓ bars, str. 30'-0" long
2-1¼"ⓔ bars, 31'-0" long
2-1¼"ⓚ bars, 21'-0" long

2-⅞"ⓖ bars, str. 14'-0" lg
2-⅞"ⓗ bars, str. 24'-0" lg

3-1¼"ⓐ bars, str., 16'-0" long
3-1¼"ⓑ bars, str., 29'-0" long

℄ Column

2-⅞"ⓖ bars, str. 14'-0" lg.
2-⅞"ⓗ bars, str. 24'-0" lg.

3-1¼"ⓐ bars, str., 16'-0" long
3-1¼"ⓑ bars, str., 45'-0" long

1-1¼"ⓐ bars, 4'-1" long
2-1¼"ⓑ bars, 52'-0" long
2-1¼"ⓒ bars, 63'-0" long
2-1¼"ⓓ bars, 72'-0" long
4-1¼"ⓔ bars, str. 45'-0" long

Add for splices as shown

4-1¼"ⓐ bars, str. 40'-0" long

Additional Stirrups

℄ Bent No. 2

℄ Bent No. 3

½"ø Stirrups ⊓ (double)

ELEVATION

Note: This elevation taken along ℄ of girder
Scale: ⅜" = 1'-0"

ELEVATION
SHOWING TORSION REINFORCEMENT

Scale: ⅜" = 1'-0"

Note: Torsion bars are symmetrical about ℄ of girder.
In Elevation: ——— indicates near face
- - - - - - indicates far face
In Plan: ——— indicates top face
- - - - - - indicates bottom face

¾"ø bars
45°
3'-10⅝"
Elevation
Plan
See Sheet #11
Details of Torsion Bars

#4 bars (2), 6'-6" long
¾"ø bars (2), 6'-6" long

24'-5¾"
12'-5¼"
74'-6"
35'-2¾"

½"ø Stirrups ⊓
Torsion bars

PLAN

Scale: ⅜" = 1'-0"

Note: For section near Bent No. 2 see sheet no. 10

Note: Soffits of Girders, Diaphragms, and Caps are parallel to deck slab and intersect on a common plane

SECTION THROUGH GIRDER NEAR CENTER

Scale: ½" = 1'-0"

SECTION THROUGH GIRDER NEAR BENT NO. 3

Scale: ½" = 1'-0"

AS BUILT
Contract accepted July 6, 1940

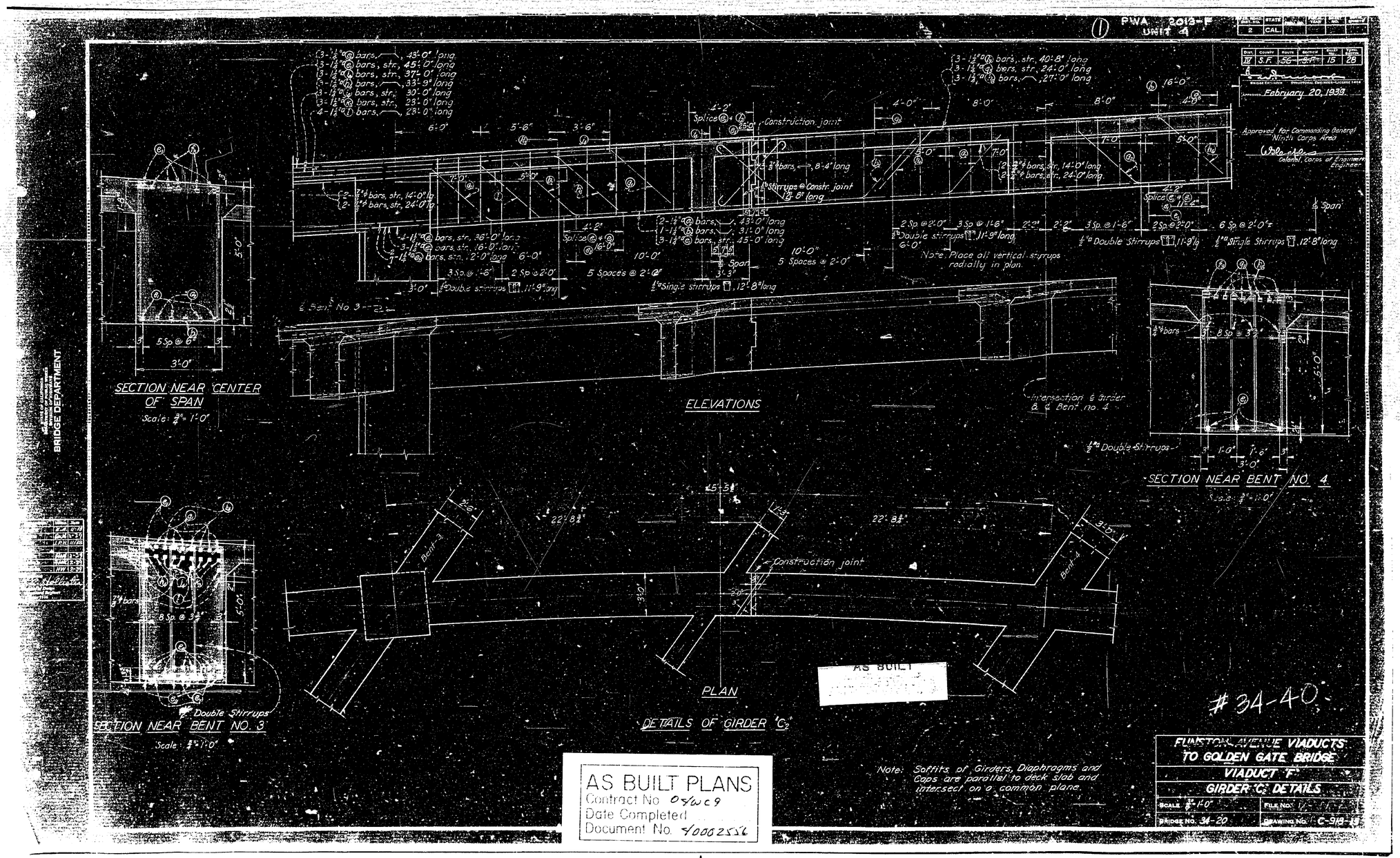
AS BUILT PLANS
Contract No. 0-1W09
Date Completed
Document No. 1000255G

#34-40

FUNSTON AVENUE-VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT F
GIRDER & DETAILS

SCALE As shown
FILE NO. V-1-1.2.3
BRIDGE NO. 34-40
DRAWING NO. S-918-F

PWA 2013-F UNIT 4
DIST. NO. 2 CAL.
DIST. IV COUNTY S.F. ROUTE 56 SECTION S.F. SHEET NO. 14 TOTAL SHEETS 28
Note: For girder "B1" see sheet no. 11. For girder "B3" See Sheet No. 13 for reinforcing steel over Bent # 3.
℄ Bent #3
℄ Bent #4
℄ Bent #5
C1 = 23'-4 3/8" C3 = 22'-2 9/16"
C1 = 46'-6 9/16" C3 = 44'-6 15/16"
C1 = 23'-2 3/16" C3 = 22'-4 1/4"
Intersection of ℄s of Girder and Diaphragm.
For Girder "C1"
For Girder "C3"
Splice 3'-6"
C1 = 4-1" bars — 21'-0" lg. C3 = " " " 16'-0" lg.
2-7/8" bars, str. 14'-0" lg. 2-7/8" bars, str. 24'-0" lg.
3-7/8" bars 8'-4" lg.
1/2" Stirrups @ Const. Joint 12'-8" lg.
3-1 1/4" bars 43'-0" lg.=C3 45'-0" lg.=C1
1-1 1/4" bars 44'-6" lg.=C1 42'-0" lg.=C3
Splice 4'-2"
15'-6" for e3
3 Sp. @ 1'-6"
7 Spaces @ 2'-0"
1/2" stirrups (Single 12'-8" lg.)
6 Spaces @ 2'-0"
1/2" Stirrups 12'-8" lg.
℄ Column
ELEVATION OF GIRDER C1 & C3
4-1 1/4" bars — 29'-8" lg.
3-1 1/4" bars — 27'-0" lg.
D1 = 23'-0 1/2" D3 = 22'-5 9/16"
4-1" bars — 18'-0" lg. = D1 and 16'-0" = D3
2-3/4" bars, str. 14'-0" lg. 2-3/4" bars, str. 24'-0" lg.
2-1 1/4" bars 42'-0" = D3 42'-9" = D1
3-1 1/4" bars 45'-0" = D1 34'-0" = D3
Intersection of ℄s of Girder & Diaphragm.
Bridge Engineer — Structural Engineer — License 1414
Approved Feb. 20, 1939
PART ELEVATION OF GIRDER D1 & D3
Approved for Commanding General Ninth Corps Area
Colonel, Corps of Engineers, Engineer.
2-1 1/4" bars 23'-0" lg.
2-1 1/4" bars 33'-0" lg.
3-1 1/4" bars, str. 29'-0" lg.
1-1 1/4" bars 43'-0" lg.
3-1 1/4" bars 35'-0" lg.
22'-11 5/16"
20'-2 1/2"
20'-2"
4-1" bars — 40'-6" lg.
Splice f3
4-1 1/4" bars 45'-0" lg.
2-1 1/4" bars 19'-8" lg.
1-1 1/4" bar 46'-0" lg.
1-1 1/4" bar 34'-0" lg.
2 Spcs. @ 2'-0"
2 Spcs. @ 2'-6"
Note: For this portion of girder D3 see sheet no. 17.
Note: All Stirrups 1/2" Single except as noted.
PART ELEVATION OF GIRDER D1
PART ELEVATION OF GIRDER E1
Scale of Sections: 3/4" = 1'-0"
8 equal spaces
3/4" bars
SECTION E-E
SECTION F-F
SECTION G-G
SECTION H-H
Note: Soffits of Girders, Diaphragms and Caps are parallel to deck slab and intersect on a common plane.
#34-40
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
GIRDER DETAILS C1-C3-D1 & D3-E IN PART
SCALE 3/8" = 1'-0"
FILE NO.
BRIDGE NO.
DRAWING NO. C-918-14
BRIDGE DEPARTMENT
AS BUILT PLANS
Contract No. 04wc9
Date Completed
Document No. 40002536
AS BUILT
CONTRACT 04WC9-04WMC4
P.W.A. 2013-F Calif. Unit 4
Contract accepted July 6, 1940



PWA 2013-F
UNIT 4
February 20, 1939
Approved for Commanding General Ninth Corps Area
Colonel, Corps of Engineers Engineer
SECTION NEAR CENTER OF SPAN
Scale: 3/4" = 1'-0"
ELEVATIONS
Note: Place all vertical stirrups radially in plan.
Intersection ℄ Girder & ℄ Bent no. 4
SECTION NEAR BENT NO. 4
SECTION NEAR BENT NO. 3
Double Stirrups
PLAN
DETAILS OF GIRDER 'C2'
Construction joint
Note: Soffits of Girders, Diaphragms and Caps are parallel to deck slab and intersect on a common plane.
AS BUILT
#34-40
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT 'F'
GIRDER 'C' DETAILS
SCALE 3/4" = 1'-0"
BRIDGE NO. 34-20
DRAWING NO. C-919-13
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556
BRIDGE DEPARTMENT

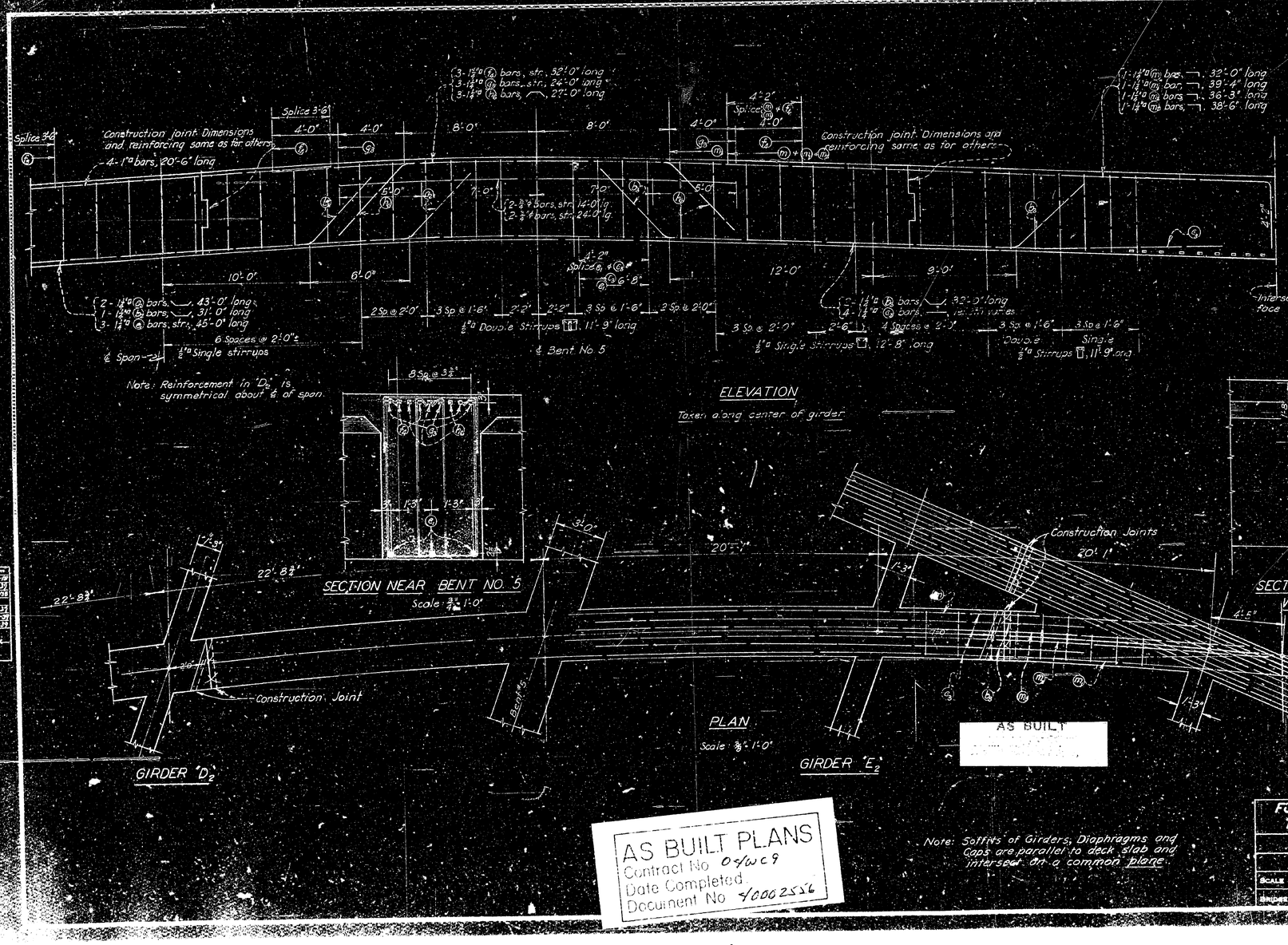
PWA 2013-F
UNIT 4

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
IV	S.F.	56	S-F	16	28

February 20, 1939

Approved for Commanding General
Ninth Corps Area
Colonel, Corps of Engineers,
Engineer.

BRIDGE DEPARTMENT



Approved
Structural Steel Engineer

Approved for Commanding General
Ninth Corps Area
Colonel, Corps of Engineers,
Engineer.

AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 400025516

Note: Soffits of Girders, Diaphragms and Caps are parallel to deck slab and intersect on a common plane.

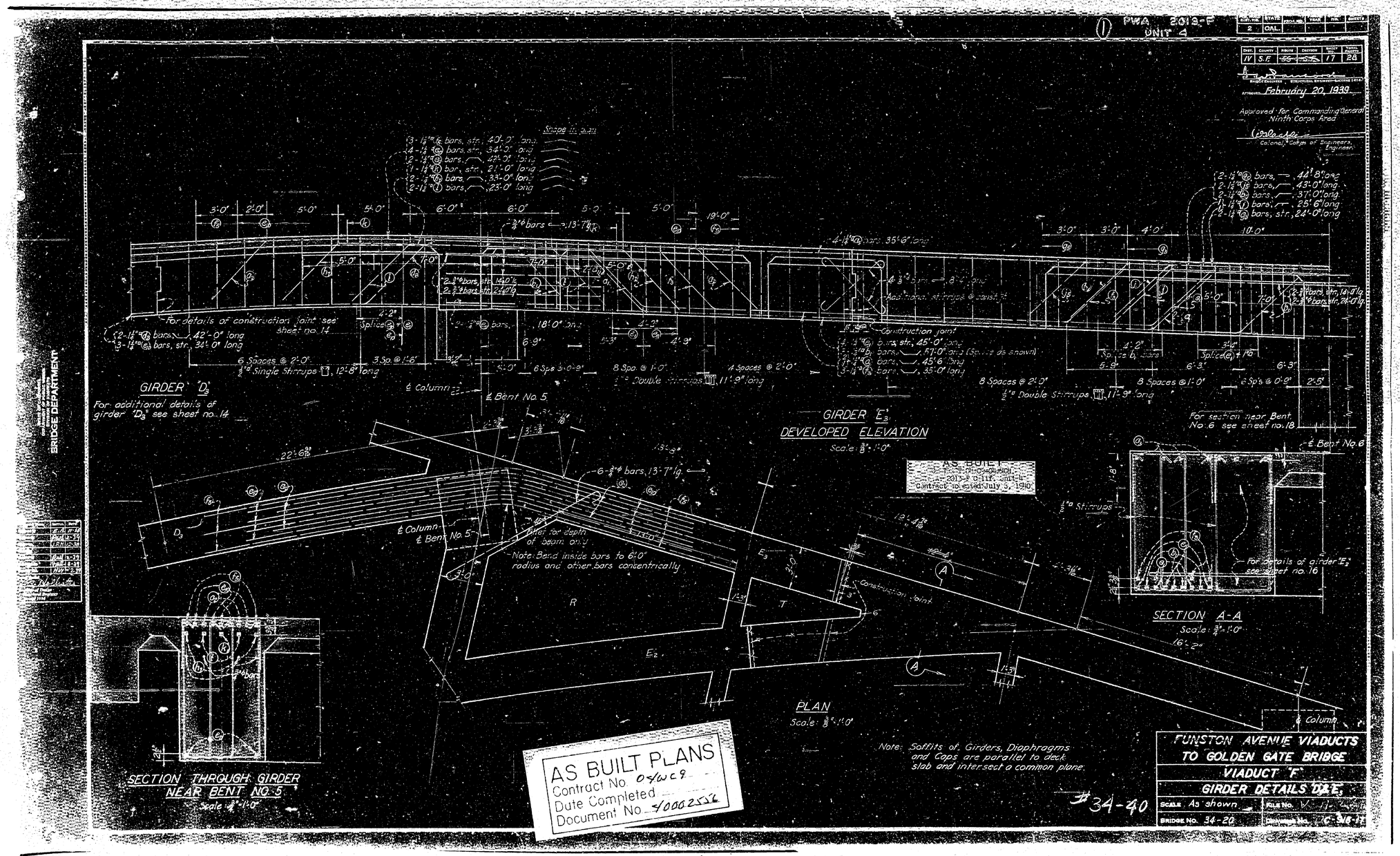
34-40

FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE

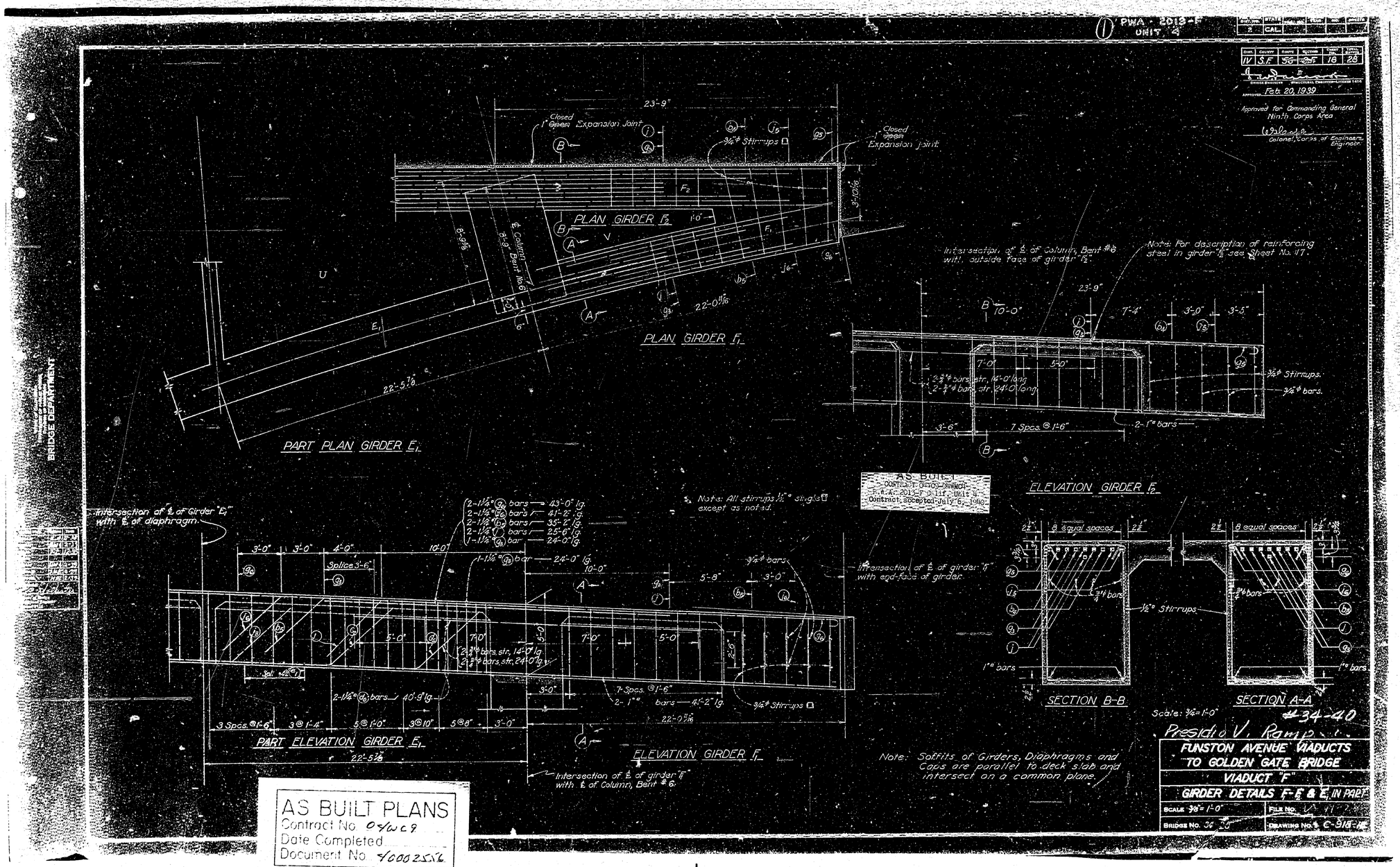
VIADUCT "F"

GIRDER "D2" & "E2" DETAILS

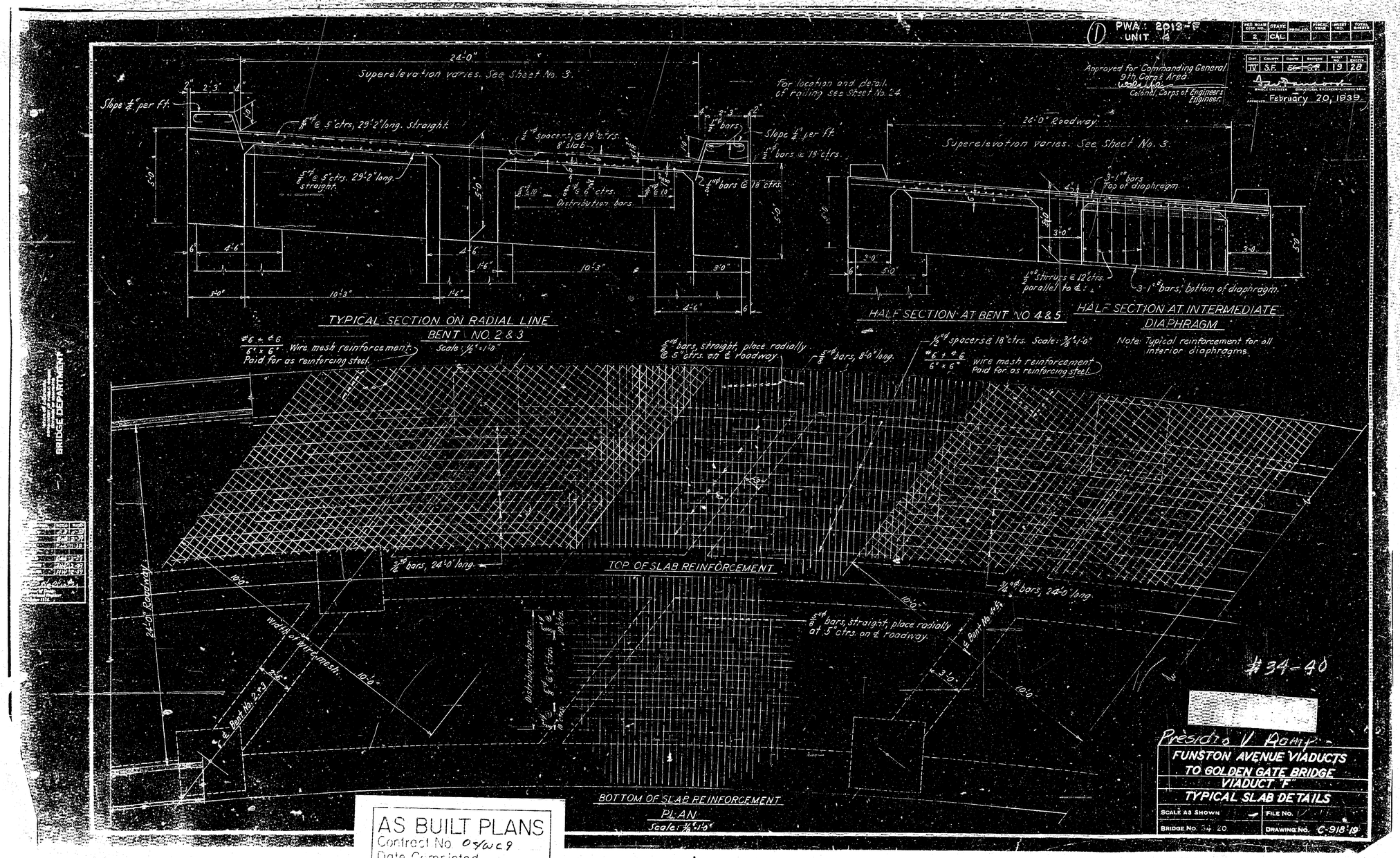
SCALE As shown	FILE No.
BRIDGE No. 34-20	DRAWING No. 2-918



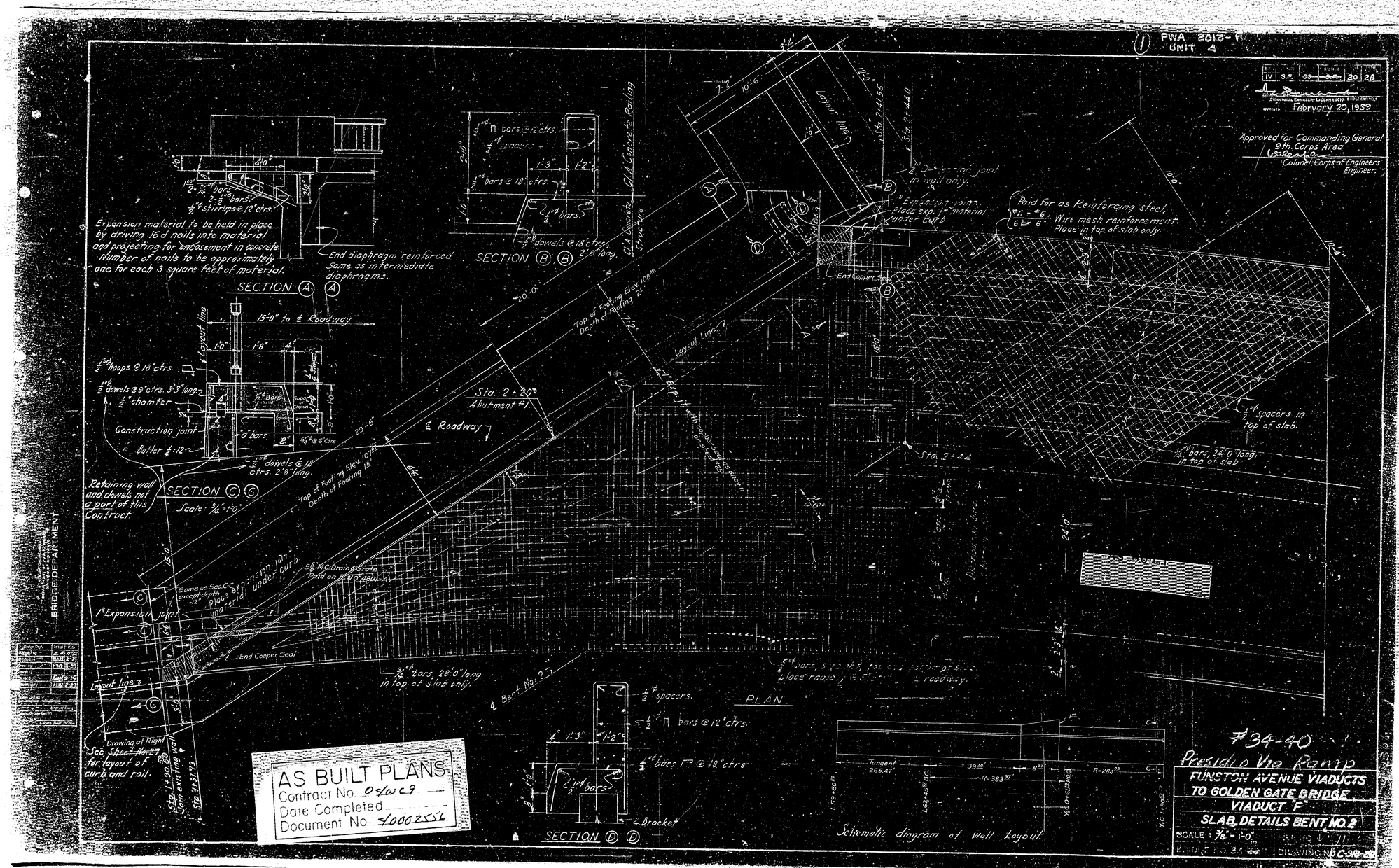
PWA 2013-F
UNIT 4
February 20, 1939
Approved for Commanding General Ninth Corps Area
Colonel, Corps of Engineers, Engineers
GIRDER "D3"
For additional details of girder "D3" see sheet no. 14
GIRDER "E3"
DEVELOPED ELEVATION
Scale: 3/8" = 1'-0"
For details of construction joint see sheet no. 14
Construction joint
For section near Bent No. 6 see sheet no. 18
SECTION A-A
Scale: 3/4" = 1'-0"
For details of girder "E2" see sheet no. 16
Note: Bend inside bars to 6'-0" radius and other bars concentrically
Filler for depth of beam only
PLAN
Scale: 3/8" = 1'-0"
SECTION THROUGH GIRDER NEAR BENT NO. 5
Scale: 3/4" = 1'-0"
Note: Soffits of Girders, Diaphragms and Caps are parallel to deck slab and intersect a common plane.
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556
#34-40
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
GIRDER DETAILS "D3" & "E3"
SCALE As shown
BRIDGE NO. 34-20
BRIDGE DEPARTMENT



PWA - 2013-F
UNIT 4
Feb. 20, 1939
Approved for Commanding General Ninth Corps Area
Colonel, Corps of Engineers, Engineer
PLAN GIRDER F2
PLAN GIRDER F1
PART PLAN GIRDER E1
ELEVATION GIRDER F2
PART ELEVATION GIRDER E1
ELEVATION GIRDER F1
SECTION B-B
SECTION A-A
Note: Soffits of Girders, Diaphragms and Caps are parallel to deck slab and intersect on a common plane.
Note: For description of reinforcing steel in girder F2 see Sheet No. 17.
Note: All stirrups 1/2" single except as noted.
Intersection of ℄ of Girder "E1" with ℄ of diaphragm.
Intersection of ℄ of girder "F1" with ℄ of Column, Bent #6.
Intersection of ℄ of girder "F1" with end-face of girder.
Scale: 3/4"=1'-0"
#34-40
Presidio V. Ramp
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
GIRDER DETAILS F-E & E1 IN PART
SCALE 3/8"=1'-0"
FILE NO.
BRIDGE NO.
DRAWING NO. C-918-
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556



AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556



FWA 2013-1
UNIT 4
February 20, 1939
Approved for Commanding General
9th. Corps Area
Colonel, Corps of Engineers
Engineer.
SECTION (A) (A)
SECTION (B) (B)
SECTION (C) (C)
SECTION (D) (D)
PLAN
Expansion material to be held in place by driving 16 d nails into material and projecting for encasement in concrete. Number of nails to be approximately one for each 3 square feet of material.
End diaphragm reinforced same as intermediate diaphragms.
Paid for as Reinforcing steel.
Wire mesh reinforcement. Place in top of slab only.
Retaining wall and dowels not a part of this Contract.
Construction joint
Layout line
Sta. 2+20
Abutment #1
℄ Roadway
Sta. 2+44
Bent No. 2
Schematic diagram of wall Layout.
#34-40
Presidio Via Ramp
FUNSTON AVENUE VIADUCTS
TO GOLDEN GATE BRIDGE
VIADUCT "F"
SLAB DETAILS BENT NO. 2
SCALE: 3/8" = 1'-0"
DRAWING NO. C-918-2
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556
BRIDGE DEPARTMENT

PWA 2013-F
UNIT 4

DIST. NO.	STATE	ROUTE NO.	YEAR	SHT.	SHEETS
2	CAL.				

DIST.	COUNTY	ROUTE	SECTION	PROJECT NO.	TOTAL SHEETS
IV	S.F.	~~SF-Cnty~~		21	28

Approved for Commanding General
9th Corps Area
W.E. Reed
Colonel, Corps of Engineers
Engineer.
DISTRICT ENGINEER
APPROVED February 20, 1939

BRIDGE DEPARTMENT

Fill hole with Concrete
Remove Cast Steel Grate and Spigot.
Reset drain (see plan below)
~~12"x18" W.I. Trough.~~
6" Std. C.I. Pipe.
Note: All dependent dimensions for drainage detail are to be verified in the field, and sketches submitted of hangers and connections before fabrication.
6" Lead pipe.

DRAINAGE DETAIL
No Scale.

Golden Gate Bridge
Sta. 5+49.67 E.C.
Closed Expan. Joint filled with pure rod copper cast as shown on sheet No. 25.
1" bars @ 9" ctrs. bottom of slab.
Remove existing Catch Basin. Fill hole with concrete supported on existing channels. Reinforce with ⅝" bars @ 6" ctrs. both ways top and bottom.
Reset catch basin
1½" step in curb
6-¾" bars, 28'-0" long. in top of slab.
Sta. 4+85.62 Class "A" Railing
Closed Expan. Joint
1'-6"
Varies
Note: Bend existing steel into curb.
⅝" bars and expansion shells at 18" ctrs, galvanized.
3"x3"x⅜" Clip L 0'-8" long with 2-⅞" Bolts
2-4"x4"x⅜" Ls.
⅜" web
8-¾" Machine bolts, 2 nuts at each bolt.
6-¾" Dardelet bolts.
1'-4"
3"x3"x⅜" Clip L 0'-8" long with 2-⅞" Bolts
2-4"x4"x⅜" Ls.
⅜" web
¾" bars @ 12" ctrs.
⅝" bars, 15" ctrs.
½" bars.
3'x1' Key.
1" bars and expansion shells @ 18" ctrs, galvanized.
Thread end of ⅝" bars.

SECTION (D) (D)
Scale: ¾"=1'-0"

4-1" bars, bottom of beam.
½" stirrups @ 6" ctrs.
½" stirrups @ 12" ctrs.
⅝" bars @ 6" ctrs. bottom of slab.
1½" bars, straight, top of slab, 10'-6" long.
1" bars
½" stirrups @ 12" ctrs.

PLAN
Scale: ⅜"=1'-0"

1'-6"
1" bars, 10'-0" long.
½" stirrups @ 12" ctrs.
1" bars.
½ of 24" W.F. 120# 1'-0" long.
⅜" web.
⅞" Dardelet bolts.
6-¾" Dardelet bolts.
2-4"x4"x⅜" Ls.
15/16" Hole with ¾" bar thrust thru it.
6-¾" Machine bolts, 2 nuts at each bolt.

SECTION (C) (C)
Scale: ¾"=1'-0"

SECTION (B) (B)
Scale: ¾"=1'-0"

1'-1"
8½ 8½ 1'-6"
2'-6"
All rail details same as Shown for Sections A-A, D-D.
1½" bars.
1'-2"
⅝" bars @ 6" ctrs. bottom of slab.
½" stirrups.
4-1" bars.
4-1" bars.
¾" Bar
2-4"x4"x⅜" Ls.
½ of 24" W.F. 1 @ 80#
1'-0" long.
⅜" web pl.
2-4"x4"x⅜" Ls.
⅜" web pl
3"x3"x⅜" clip L 1'-8" lg. with 2-⅞" Bolts
2-4"x4"x⅜" Ls.
⅝" Dardelet bolts.
8-¾" Machine bolts, 2 nuts at each bolt.

AS BUILT
Corrected as noted May 5, 1940

SECTION (A) (A)
Scale: ¾"=1'-0"

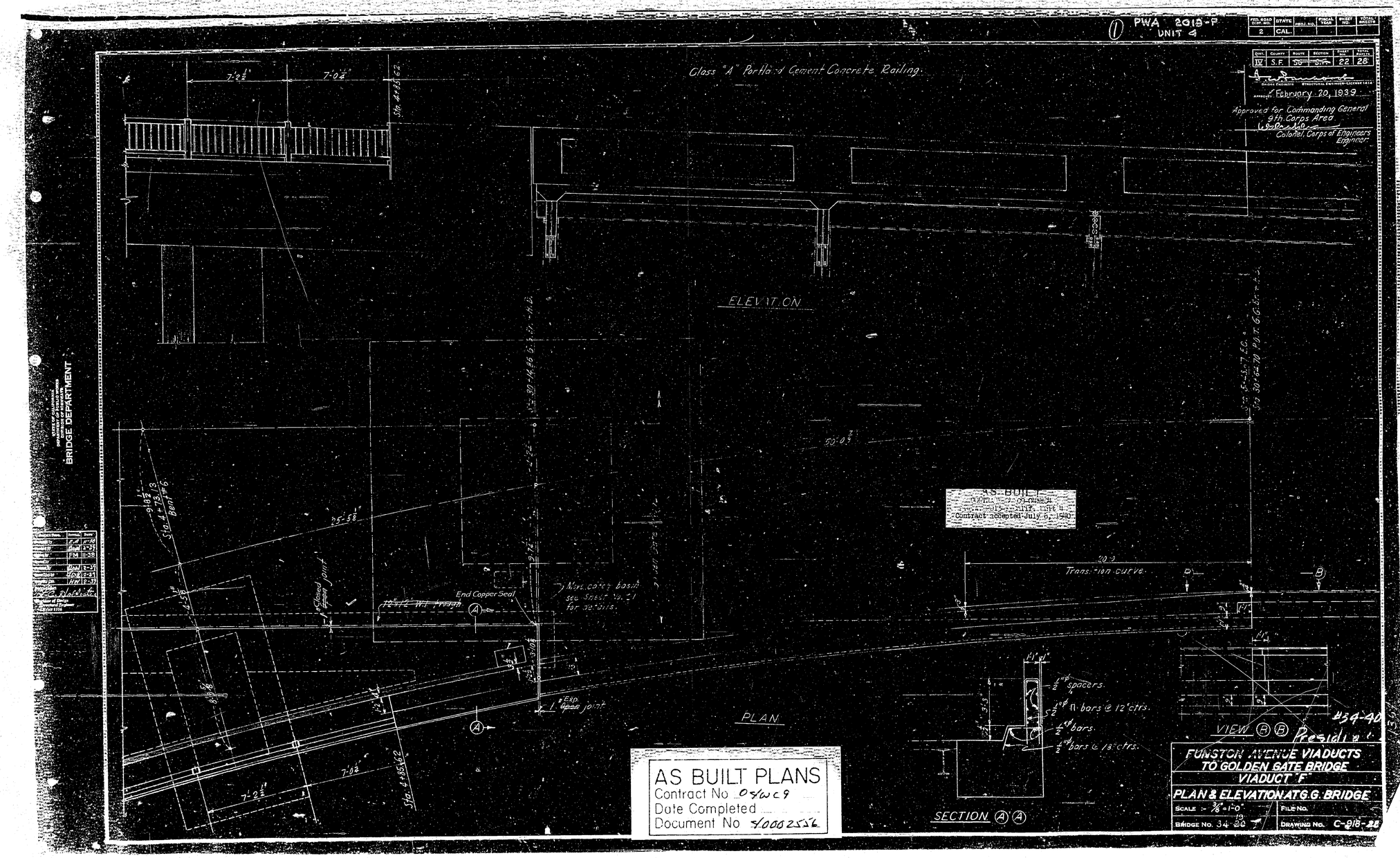
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 400025S2

Note: All rivets are ⅞"ø

Presidio
FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
BRACKET DETAILS AT G.G. BRIDGE

#34-40

SCALE AS SHOWN	FILE NO.
BRIDGE NO. 34-20	DRAWING NO. C-918



PWA 2018-P
UNIT 4
Class "A" Portland Cement Concrete Railing
ELEVATION
PLAN
SECTION (A)(A)
VIEW (B)(B)
Transition curve
End Copper Seal
Approved for Commanding General
9th Corps Area
Colonel, Corps of Engineers
Engineer
February 20, 1939
AS BUILT
Contract accepted July 6, 1940
AS BUILT PLANS
Contract No 04WC9
Date Completed
Document No 40002556
FUNSTON AVENUE VIADUCTS
TO GOLDEN GATE BRIDGE
VIADUCT "F"
PLAN & ELEVATION AT G.G. BRIDGE
SCALE 3/8" = 1'-0"
BRIDGE No. 34-20
FILE No.
DRAWING No. C-918-28
BRIDGE DEPARTMENT

DISTRICT | STATE | ROUTE | SECTION | SHEET NO. | TOTAL SHEETS
2 | CAL.

Dist.	County	Route	Section	Sheet No.	Total Sheets
IV	S.F.	56	S-S	23	28

Bridge Division, Calif. Div. of Highways

Approved February 20, 1939

Approved for Commanding General
9th Corps Area
(Signed) Wm. Wilbur
Colonel, Corps of Engineers,
Engineer.

P.W.A. 2015-F
UNIT 4

Trough may be shipped in convenient lengths and field welded into continuous trough.

Sta. 29+19.75 ℄ G.G. Br. ℄ Ft.

Sta. 29+57.59 G.G. Bridge

Golden Gate Bridge

11'-0"

6" x 6" - #6 x 6"

Wire mesh reinforcement place in top of slab only. Paid for as reinforcing steel.

Begin W.I. trough

Begin Copper Seal

¾" bars, 24'-0" long, top of slab only.

½" Exp. ℄ Sta. 29+19.75 G.G. Br. ℄ Ft.

2½" W.I. strap @ 4'0" ctrs. welded to sides.

½" W.I. plate, may be bent or welded continuously

12"x12" trough 79'-6"

5 - 6"x 8"x ⅞" L's, 1'0" long @ 4'-5" ctrs. welded to trough.

W.I. nipple to fit bell of 6" C.I. pipe

B

½" Spacers, top of slab

Closed joint

Begin 6" W.I. trough

Sta. 29+57.59 G.G. Br. ℄ Ft.

4-¾" slots

6'-8" ctrs.

℄ Concrete line

Viaduct F

1" Closed Open joint

1" Exp. Paper

G.G. Bridge

Copper flashing to studs - typ.

Copper Seal

5"

12"x12"x½" W.I. trough

⅞" ℄ bolts @ each angle

6'-8" ctrs.

2½"x2½"x⅜" L - 1'0" long

6'-8" ctrs.

SECTION B-B

Angles and bolts for trough assembly paid for as structural steel.

See Sheet No. 22 for end of trough

¾" bars, 28'-0" long in top of slab only.

Sta. 29+19.75

½" Expansion joint in slab and rail of Golden Gate Bridge.

2'-9"

½" spacers. Top and bottom of slab.

½" bars @ 9" ctrs. bottom of slab.

¾" bars @ 18" ctrs. top of slab.

For details of end post see Sec. B-B Sheet No. 20

Sta. 31+39.19

9" Curb face

10½" Curb face Sta. 4+04.46

12" Curb face

PLAN AT INTERSECTION

¾" bars, straight, top and bottom of slab, place radially @ 5" ctrs. on ℄ roadway.

½" Distribution bars in bottom of slab.

9'-4½"

1'-1½"

½" spacers.

½" ℄ bars @ 12" ctrs.

Class "A" Railing Conc.

2-½" bars.

½" hoops @ 18" ctrs.

2-¾" bars.

½" bars @ 18" ctrs.

½" bars @ 9" ctrs.

½" spacers. ℄ slab.

3" Fillet

9'-9"

Construction joint. Top of deck.

3-1" bars. 2-½" bars.

½" stirrups @ 12" ctrs.

SECTION (A)(A)

Note: Dimensions of wrought iron trough are dependent upon existing construction. Fabricator should verify by field measurements and submit details to the Engineer for approval before beginning fabrication.

AS BUILT
Contract completed July 6, 1940

#34-40

Presidio

FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE VIADUCT F

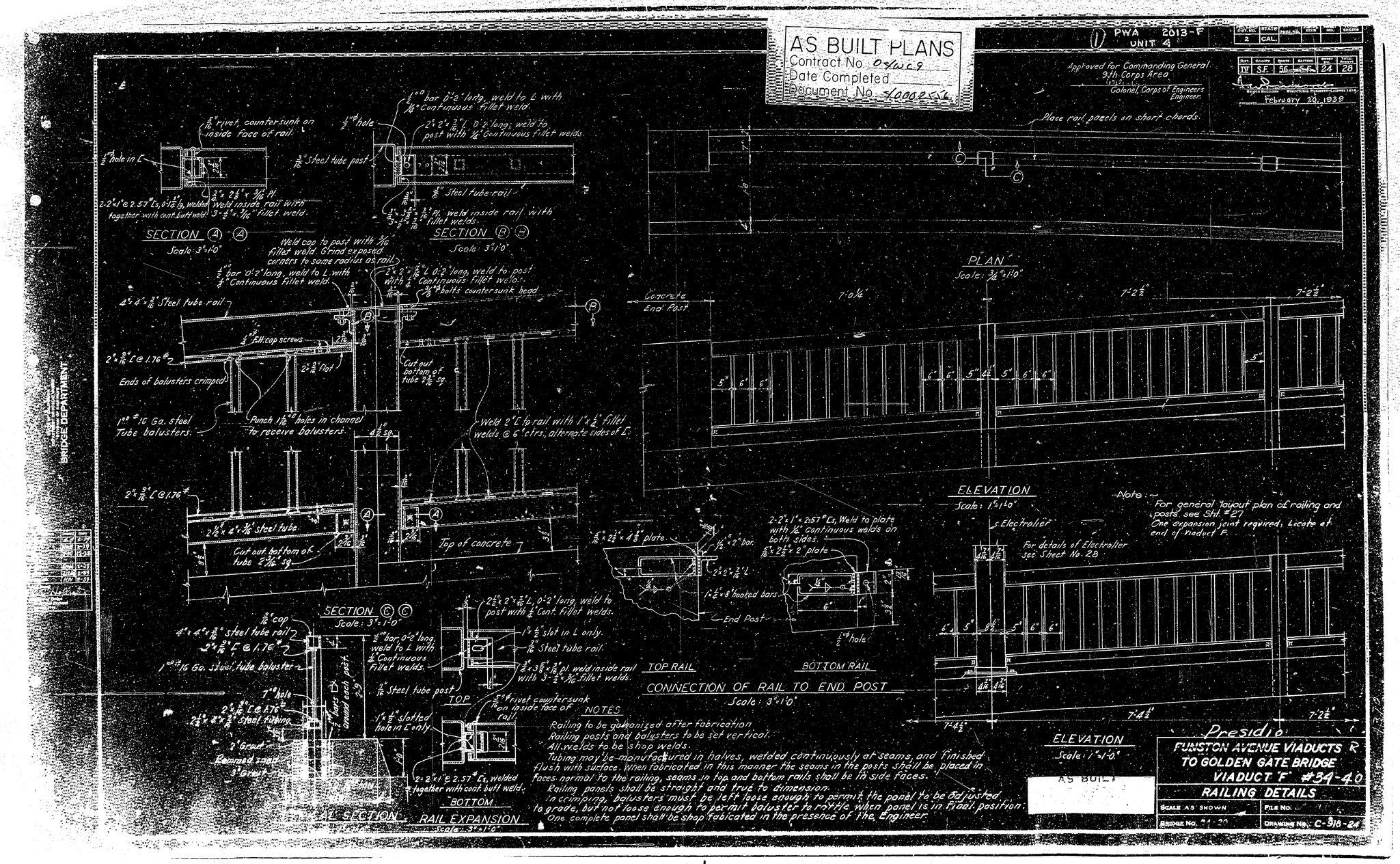
SLAB DETAILS AT G.G. BRIDGE

SCALE: ⅜"=1'-0" | FILE NO.

BRIDGE No. 34-20 | DRAWING No. C-918-23

AS BUILT PLANS
Contract No. 05402
Date Completed
Document No. 5/8082334

BRIDGE DEPARTMENT


AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556
PWA 2013-F
UNIT 4
Approved for Commanding General
9th Corps Area
Colonel, Corps of Engineers
Engineer
February 20, 1939
SECTION (A) (A)
Scale: 3"=1'-0"
SECTION (B) (B)
Scale: 3"=1'-0"
SECTION (C) (C)
Scale: 3"=1'-0"
PLAN
Scale: 3/4"=1'-0"
ELEVATION
Scale: 1"=1'-0"
Note:- For general layout plan of railing and posts see Sht. #27
One expansion joint required. Locate at end of viaduct F.
For details of Electrolier see Sheet No. 28
Place rail panels on short chords.
Concrete End Post
TOP RAIL
BOTTOM RAIL
CONNECTION OF RAIL TO END POST
Scale: 3"=1'-0"
RAIL EXPANSION
Scale: 3"=1'-0"
NOTES
Railing to be galvanized after fabrication
Railing posts and balusters to be set vertical.
All welds to be shop welds.
Tubing may be manufactured in halves, welded continuously at seams, and finished flush with surface. When fabricated in this manner the seams in the posts shall be placed in faces normal to the railing, seams in top and bottom rails shall be in side faces.
Railing panels shall be straight and true to dimension.
In crimping, balusters must be left loose enough to permit the panel to be adjusted to grade, but not loose enough to permit baluster to rattle when panel is in final position.
One complete panel shall be shop fabricated in the presence of the Engineer.
AS BUILT
Presidio
FUNSTON AVENUE VIADUCTS R
TO GOLDEN GATE BRIDGE
VIADUCT "F" #34-40
RAILING DETAILS
SCALE AS SHOWN
FILE NO.
BRIDGE NO. 34-40
DRAWING NO. C-318-24
BRIDGE DEPARTMENT

(1)

PWA 2013-F
UNIT 4

Approved for Commanding General
Ninth Corps Area
[signature]
Colonel, Corps of Engineers
Engineer

DIST	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
IV	S.F.	SC	S-F.	25	28

[signature]
Bridge Engineer — Structural Engineer — Lieut. U.S.R.

APPROVED February 20, 1939.

BRIDGE DEPARTMENT
APPROVED
DIVISION OF HIGHWAYS
DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA

Design Draft	Initial	Date
Designed by	B.B.R.	1934
Checked by	W.W.W.	1935
Drawn by		
Traced by	T.K.M.	1935
Checked by	Paul	2-37
Quantities by	F.G.S.	9-36

Design Correct
[signature]
Engr. in Charge

Prints to Dist. Engr.	
Prints from Dist. Engr.	
Prints to Const. Eng. Br.	
Constr. Dept.	Initial
Quantities Chkd.	
Field Data Chkd.	
Constr. Details Correct	

County Eng. Surveyor

2'-0" Surcharge for L.L.
Top of fill.
Layout Line
Chamfer 1"
1½" ø Bars along top of wall.
2 Dia. 1½" Min.
H Comp.
V Comp.
e
Batter 1:12
℄ Layout line.
Batter 3/8:12
Short "a" bars
1" ø Bars @ 18" ctrs.
4" ø Drains at 6½ ctrs. at height of outside ground surface. Provide suitable stone backing.
Construction joint.
W
C
B
"b" Bars.
½" ø Bars
2'
F
S
S
1'-0"
½" ø Bars
2 Dia. 2" Min. Step short "a" bars
3 Rad.
½W
1'-0", H=12' or more.
8", H=12' or less.
Omit key when founded on rock or when so directed by the Engineer.

SECTION

W
C
B
S1
S2
½" ø Spacer bars.
Copper seal
Chamfer ½"
½" Expansion joint, fill with premolded, expansion joint filler. Joint to extend thru-out height of wall only, locate joints at 30'± ctrs. or as directed by the Engineer.

PLAN OF EXPANSION JOINT

"a" Bars straight with dowels bent into footing
½" ø Spacer bars @ 18" ctrs.
H= 22'-0"
H= 20'-0"
H= 18'-0"
H= 16'-0"
H= 14'-0"
H= 12'-0"
H= 10'-0"
H= 8'-0"
12'-0" Long
11'-0" Long
10'-0" Long
9'-7" Long
8'-9" Long
8'-0" Long
7'-3" Long
6'-6" Long
"a" Bar dowels
40 Dia.
Short "a" bars
"b" Bars bent into footing

ELEVATION

6" 1'-0"
1'-6"
1:1
Batter 3/8:12
Batter 1/8:12

DETAIL TOP OF ABUTMENT WALL

Details not shown to be the same as shown for Retaining Wall.

Use reinforcing for H= 20' 18' 16' 14' 12' 10'
1'-0"
2-1½" ø Bars.
"a" Bars.
H= 20'-0"
H= 9'-0"
F=3'-0"
Layout line.
W=11'-6"
2'-7½" C to C
6'-0"
"b" Bars.

TYPICAL LAYOUT EXAMPLE

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

H	22'	20'	18'	16'	14'	12'	10'	8'	6'
W	12'-6"	11'-6"	10'-6"	9'-6"	8'-6"	7'-6"	6'-6"	5'-6"	4'-6"
C	4'-0"	3'-8"	3'-4"	3'-0"	2'-8"	2'-4"	2'-0"	1'-8"	1'-4"
B	8'-6"	7'-10"	7'-2"	6'-6"	5'-10"	5'-2"	4'-6"	3'-10"	3'-2"
F	2'-2"	2'-0"	2'-0"	1'-8"	1'-8"	1'-6"	1'-6"	1'-2"	1'-2"
S1	5½"	5"	4½"	4"	3½"	3"	2½"	2"	1½"
S2	1'-8¼"	1'-7½"	1'-6¾"	1'-6"	1'-5¼"	1'-4½"	1'-3¾"	1'-3"	1'-2¼"
"a" Bars	½"ø @ 7"	½"ø @ 7"	½"ø @ 7"	½"ø @ 7"	½"ø @ 7"	½"ø @ 8"	½"ø @ 8"	½"ø @ 8"	½"ø @ 10"
"b" Bars	½"ø @ 7"	½"ø @ 7"	½"ø @ 7"	½"ø @ 7"	½"ø @ 7"	½"ø @ 8"	½"ø @ 8"	½"ø @ 8"	½"ø @ 10"
Conc. CF/Ft.	62.25	54.07	46.01	39.07	33.84	27.57	22.92	16.65	13.65
Steel Lbs/Ft.									
Toe Pres.	4,700	4,300	3900	3,550	3,200	2,800	2,350	1900	1500
H Comp. Lbs.	12,100	10,300	8,640	6,890	5,550	4,250	3,210	2,175	1,440
V Comp. Lbs.	29,700	25,500	21,300	17,600	14,000	11,000	8,300	6,150	4000
e	8.25'	7.55'	6.80'	6.15'	5.50'	4.85'	4.15'	3.50'	2.80'

Note: Key omitted from above quantities.

Sheet Copper #22 Stubs Gauge
1" x 4" Holes @ 8" ctrs.
Scale: 1½" = 1'-0"
¼" Sheet of Exp. Jt. Filler
Sheet Copper #22 Stubs Gauge
¼" Dia.
¼" Sheet of Exp. Jt. Filler.
1½"
1½"
Scale: Full Size

COPPER SEAL

Use Seal Only When Waterlight Joint is Required.

AS BUILT PLANS
Contract No. 04-Sc-9
Date Completed
Document No. 40002556

CONTRACT AWARDED
P.W.A. 2013-F Calif. Unit 4
Contract accepted July 6, 1940.

NOTES

All concrete to be Class "A" concrete.
All reinforcing steel to be of structural steel grade deformed bars and where bars are spliced they shall lap at least 40 diameters.
When the footing rests on a rock foundation "W" may be decreased to 0.4 (t+F+2') making all the reduction in "B" leaving "C", "S1" and "S2" unchanged.
Design data:- fc = 1000 lbs., fs = 18 000 lbs., u = 150 lbs., n = 10, earth = 120 lbs./cu.ft. and equivalent fluid = 36 lbs./sq.ft./ft. of height.
Wall is designed for 2'-0" surcharge. For a greater surcharge a special design will be required.

34-40

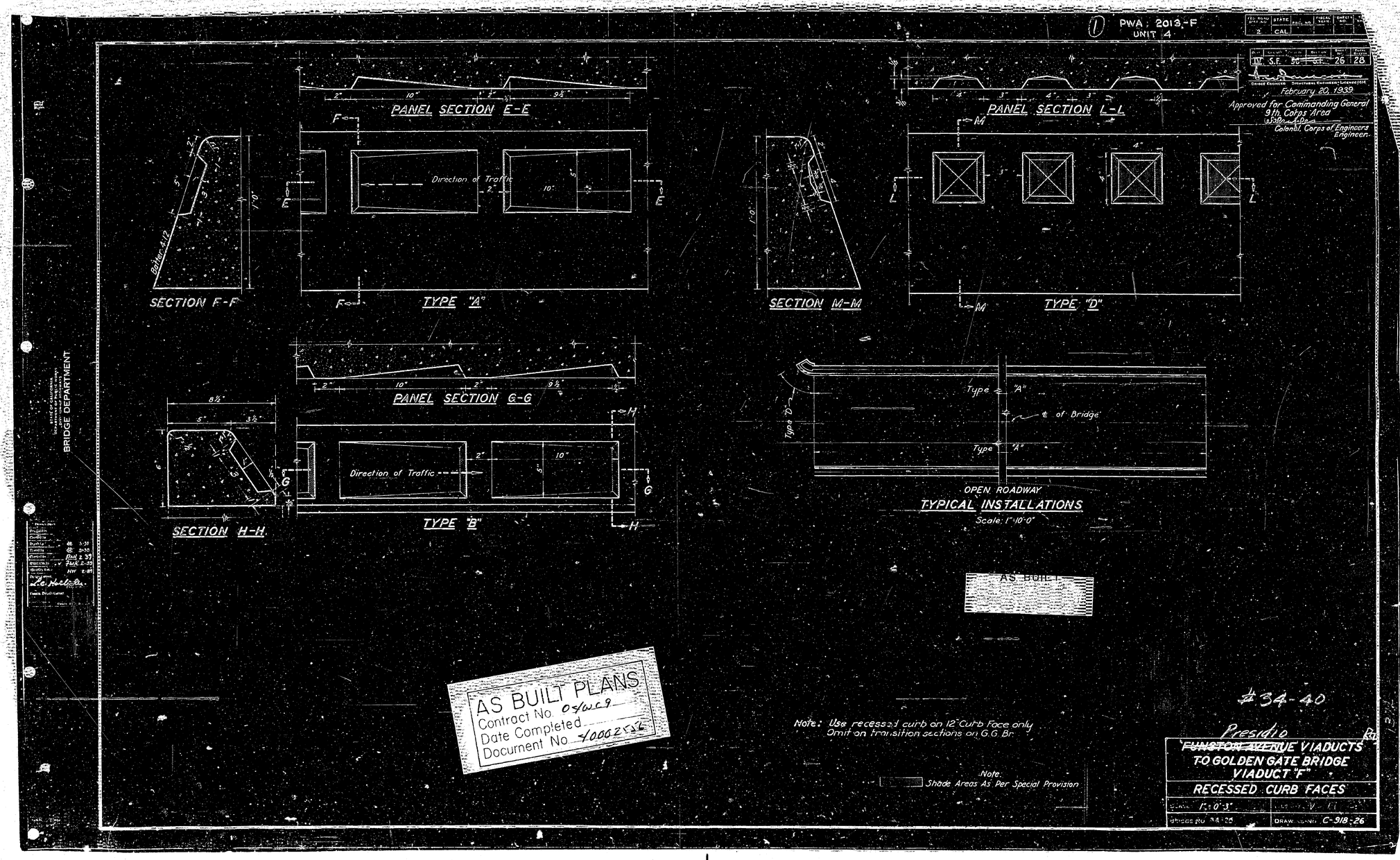
Presidio V. Ramp

FUNSTON AVENUE VIADUCTS TO GOLDEN GATE BRIDGE
VIADUCT "F"
STANDARD RETAINING WALL

SCALE. NONE.	FILE NO.
BRIDGE NO. 34 - 20	DRAWING NO. C-918-25

REVISED - 5-16-38

A20


PWA 2013-F
UNIT 4
February 20, 1939
Approved for Commanding General
9th Corps Area
Colonel, Corps of Engineers
Engineer.
PANEL SECTION E-E
PANEL SECTION L-L
SECTION F-F
TYPE "A"
SECTION M-M
TYPE "D"
PANEL SECTION G-G
SECTION H-H
TYPE "B"
Direction of Traffic
Type "A"
Type "D"
℄ of Bridge
OPEN ROADWAY
TYPICAL INSTALLATIONS
Scale: 1"=10'-0"
AS BUILT
AS BUILT PLANS
Contract No. 04WC9
Date Completed
Document No. 40002556
Note: Use recessed curb on 12" Curb Face only
Omit on transition sections on G.G. Br.
Note:
Shade Areas As Per Special Provision
#34-40
Presidio
~~FUNSTON AVENUE~~ VIADUCTS
TO GOLDEN GATE BRIDGE
VIADUCT "F"
RECESSED CURB FACES
1"=0'-3"
DRAWING NO. C-918-26
BRIDGE DEPARTMENT

PWA 2048-F
UNIT 4

DIST. NO.		PROJ. NO.	YEAR	SHT.	TOTAL SHTS.
2	CAL.				

DIST.	COUNTY	ROUTE	SECTION	SHEET	TOTAL SHEETS
IV	S.F.	56	C.E.	27	28

Approved for Commanding General
9th Corps Area
Colonel, Corps of Engineers
Engineer.

Approved
District Engineer
Divisional Engineer-Sixth Area

February 20, 1939

Construction joints

ELEVATION

Viaduct "G"

50.66' ref. 2+26.33 Sta. Exist. Post.
218.97' 29 Panels @ 7.55
77.13'
Sta. 59+76.33 Existing post
Sta. 60+26.39 Electrolier
P.C. Sta. 62+45.96
R=385.02'
R.O.G. @ 61.70
Sta. 4+37.96 Electrolier (Ref.)
Sta. 4+41.71 Electrolier
R=285.02'
Sta. 4+85.62 Conc. End Post
Sta. 2+46.00 End Post
Sta. 2+95.13 End Post

RAILING LAYOUT
No Scale.

Construction joints

Deck and Girders Poured Together

PLAN

Proposed pouring diagrams may be varied by the Contractor if approved by the Engineer.

POURING DIAGRAM

AS BUILT PLANS
Contract No. 04wc9
Date Completed
Document No. 40002556

AS BUILT
Plans revised to conform with Contract accepted July 5, 1940

fill in between forms to make key.

SECTION (A)(A)

KEYS - SLAB TO GIRDER

Note:
Where girder stems and slabs are poured separately, raised keys shall be used. The 1-6" dimension is to be approximated as closely as stirrups will permit. After concrete in stem is poured, key forms of 2"x 4" lumber cut to fit shall be placed immediately and keys poured. Concrete surfaces shall all be thoroughly cleaned by wire brush or air and water pressure jets. This shall be done as soon as the concrete has hardened sufficiently to allow removal of the surface slickings and to expose clean aggregate.

4 Dia. backing for all bars except those in bottom of girders which shall be 2 dia.

HOOKED BAR DATA

4-DIA. BACKING		ALL HOOKS		2-DIA. BACKING		
SIZE OF BAR	OVERALL * B	A	B	D	A	OVERALL * B
½"	1'-7½"	4½"	8"	3½"	3½"	9½"
⅝"	1'-9¼"	4⅞"	1'-0"	3⅞"	3⅞"	1'-4⅛"
¾"	1'-11"	5⅜"	1'-0"	3⅞"	4"	1'-4½"
⅞"	2'-1¾"	7⅛"	1'-8"	6"	3⅞"	2'-4⅛"
1"	2'-6"	8"	1'-8"	6"	4"	2'-4½"
1⅛"	1'-10⅛"	8⅛"	1'-8"	6"	6⅛"	2'-3⅛"
1¼"	1'-9¼"	9¼"	1'-8"	6"	6¼"	2'-2½"

* Amount to be added to overall dimension of concrete member to give the length of the hooked reinforcing bars, both ends hooked.

Overall

DATE

#34-40

Presidio
FUNSTON AVENUE VIADUCTS
TO GOLDEN GATE BRIDGE
VIADUCT "F"

POURING DIAGRAM

SCALE: NONE	FILE NO.
BRIDGE NO. 34-20	DRAWING NO. C-918-27

BRIDGE DEPARTMENT

PWA 2013-F
UNIT 4

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
4	CAL				
4	SF	35-B		28	28

February 20, 1939

Approved for Commanding General, 9th Corp Area
Colonel, Corps of Engineers
Engineer

LIGHT PLAN
Scale 1"=20'

6'x6'x6' Pull Box. Exact location to be determined by the Engineer

10"x10"x18" Pull Box in new curb

11'C. to be removed and replaced in new location. See detail

10"x10"x18" Pull Box in new curb

1" Conduit

To sign lights

Junction Box I Sta. 3+5.5

Sta. 3+11.71 Electrolier 10"x10"x18" Transformer Vault

Bond

Drain

To other signs & lights

Stub out and cap at conduit

2" Conduit

Checkered plate cover & rubber gasket

1" Conduit to other sign lights

Bond

1" Conduit. Extend above sidewalk and cap.

1" Galv. pipe drain

2" Conduit. To extend through deck and be capped at 8" for future connection to light over sign "SD A-2"

2+30

Stub out and cap all conduits 4" the clear of present construction & 4' below subgrade

Transformer Vault (T.V.)
Electrolier Sta. 1+37.96
2" Conduits
1" Conduit for sign light

Pull Box

T.V.

Electrolier Sta. 60+26.99
2" Conduits
1" Conduit
Connect to existing conduit at Viaduct "D"

JUNCTION BOX DETAIL
Scale 3"=1'-0"

Drill and tap hole for 2-3/8" steel cap screws as required for proper fitting of the railing.

See detail for this connection

Drill and tap hole for 1/2 bolts

8"

2"x2"x1/4"x2'-6" L

POLE BASE DETAIL
Scale 1/2"=1'-0"

SECTION FOR ELECTROLIER ON WALL

Extend the solid section of the curb 3'-0" each side of c/l of electrolier

2" grout

Bond

1" Ø drains

1"x14" Anchor Bolts

Existing Wall

SECTION FOR ELECTROLIER ON SIDEWALK

1" min. clear

2" grout

1"x14" Anchor Bolts Square head, hex nut

Bond

Burn out base plate and turn new bolts holes to suit field conditions

Type "A" of unit "B" Plans.

Be Electrolier

1" Galv. pipe drain

Bond

Transformer vault 10"x10"x18" Flanged c.i. Box. Checkered plate cover and rubber gasket. Drill and tap as required.

6"

2'-0"

8"

1'-8"

8"

2" bolts

10"x10"x2'-5½" P.

Bond

DETAIL AT ELECTROLIER BASE
Scale 1"=1'-0"

5/8" Ø rigid bar

2" fillet weld

Drill and tank 1" Ø bolts

2"x2"x1/4"x2'-0" long

2"

8"

2'

UPPER RAIL CONNECTION
Full Size

5/8" rubber gasket

5/8"x1'-8"x2'-10" Pl.

8" bolts

Railing

2"x2"x1/4" L

PULL BOX DETAILS
Scale 1"=1'-0"

4"x4"x10'-9" Pl.

2"x2"x1/4" L

Drill 7/8" ø

4"x4"x10'-9" Pl.

4½"

2"

10"x10"x18" Pull Box. Position to be determined by Engineer

Existing conduit to remain in place

Bond

Conduit in new position under the deck

1" Bore existing conduit by removing existing curb at intersection. Sufficient curb must be removed on the West end to allow for the bending up and threading of the conduit that will remain on top of the deck.

2" Cut off, thread and bend conduit to fit into 10"x10"x18" pull box. Final position of pull box to be determined by the Engineer in the field.

3" Cut hole in deck large enough so that conduit can be connected from under deck position to the pull box.

4" Install pull box and install conduit in the new position under the deck. Clamps are to be placed alternately on each side of conduit.

5" Patch deck and pour new curb.

ELEVATION
Scale 3"=1'-0"

2 unit "A" Malleable Iron Bracket or equal

1" Bolt

7½"

C-CLAMP DETAIL
Scale 6"=1'-0"

2 unit "A" Malleable Iron Bracket or equal to be located on each side of conduit

New position of conduit. Reliable thickness for 4" conduit at 650' maximum centers

Present position of 4" conduit

SECTION Road

#34-40

PRESIDIO
EINSTON AVENUE VIADUCTS
TO GOLDEN GATE BRIDGE
VIADUCT F
ELECTRICAL DETAILS

SCALE As Noted
BRIDGE NO. 34-20

AS BUILT PLANS
Contractor 04 W C 9
Date Completed
Document No. 4006252

DEPARTMENT

UNIT NO. 1

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
IV	S.F.	56	22.1	22A	

Place rail panels on short chords on curve.

PLAN

ELEVATION
Scale 1"=1'-0"

25'-9" to ℄ Roadway (Y&C Line)
15'-0" to ℄ Roadway (Y&C Line)

Layout Line

Place 4 #8 dowels with Tunnel Contract

2-1½ bars.

¾" bars around each post

¾" dowels @ 9" ctrs. 3'-3" long.

½" hoops @ 18" ctrs.

Chamfer ½

Construction joint

½" bars along top of wall.

½" bars @ 18" ctrs.

Batter ½:12

7" hole 2" Grout ¾" spacers Rammed sand.

#8 dowels @ 18" ctrs. 2'-8" long

#8 bars

Batter ⅜:12

SECTION TOP OF RETAINING WALL
Scale 1"=1'-0"

Presidio Viaduct

SUPPLEMENTARY SHEET FOR ON-OFF RAMPS

RAILING DETAILS

SCALE AS SHOWN | FILE NO.

22A-7

SECTION A A
Scale: 3"=1'-0"

⅝" rivet, countersunk on inside face of rail.

¾" hole in ℄

2-2½"×1"@ 2.51" ℄s, 0-12" lg. welded together with cont. butt weld.

2½"×2⅜"×⅜" Pl. weld inside rail with 3-2"×⅜" fillet welds.

¾" steel tube post

SECTION B B
Scale: 3"=1'-0"

¾" bar 0'-2" long, weld to ℄ with ¼" continuous fillet weld.

2½"×2½"×⅜" ℄, 0'-2" long, weld to post with ¼" continuous fillet welds.

¾" steel tube rail

⅜"×3⅜"×⅜" Pl. weld inside rail with 3-2½"×⅜" fillet welds.

Weld cap to post with ³/₁₆" Cont. fillet weld. Grind exposed corners to same radius as post.

¾" bar 0'-2" long, weld to ℄ with ¼" continuous fillet weld.

2½"×2½"×⅜" ℄, 0'-2" long, weld to post with ¼" continuous fillet welds.

¾" bolts, countersunk head.

4"×4"×⅜" Steel Tube rail

½" Cap screws

Cut out bottom of tube 2⅜" sq.

2"×⅜" flat

2"×⅜"×⅜" ℄ @ 1.76"

Ends of balusters crimped.

Punch 1⅞" holes in channel to receive balusters.

Weld 2" ℄ to rail with 1"×¼" fillet welds @ 6" ctrs. alternate sides of ℄

1" #16 Ga. Steel tube balusters.

2"×⅜"×⅜" ℄ @ 1.76"

2½"×4"×⅜" Steel tube

Cut out bottom of tube 2⅜" sq.

Place ¾" dowels With Tunnel Contract

Top of concrete 7"

SECTION C C
Scale: 3"=1'-0"

2½"×2½"×.64" ℄. Weld to post with continuous fillet welds.

End post Viaduct "C" in place.

Cut out bottoms of tube 2⅜" square.

Bottom rail connection same as shown in Section A-A

SECTION TOP OF RETAINING WALL
℄ Line, Sta. 1+83 to Sta. 3+00.
Scale: 1"=1'-0"

¾" dowels @ 18" ctrs. 2'-8" long

Top of retaining Wall

1½" bars along Top of wall.

Viaduct "C"

Tunnel Contract

Viaduct "F"

Electrolier

Existing Wall

62 Railing panels 463-8"

Note: Last railing panel connecting to viaduct "F" to be built with Viaduct "F" contract.

LOCATION PLAN
Scale 1"=40'

GENERAL NOTES.

Railing to be galvanized after fabrication.
Railing posts and balusters to be set vertical.
All welds to be shop welds.
Tubing may be manufactured in halves, welded continuously at seams and finished flush with surface. When fabricated in this manner, the seams in the posts shall be placed in faces normal to the railing, seams in top and bottom rails shall be in side faces.
Railing panels shall be straight and true to dimension. In crimping, balusters must be left loose enough to permit the panel to be adjusted to grade, but not loose enough to rattle when panel is in final position.
One complete panel shall be shop fabricated in the presence of the Engineer.

AS BUILT PLANS
Contract No. 04-0C9
Date Completed
Document No. 4000255-6

BRIDGE DEPARTMENT