

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(31) Unit 2	1967	28	217

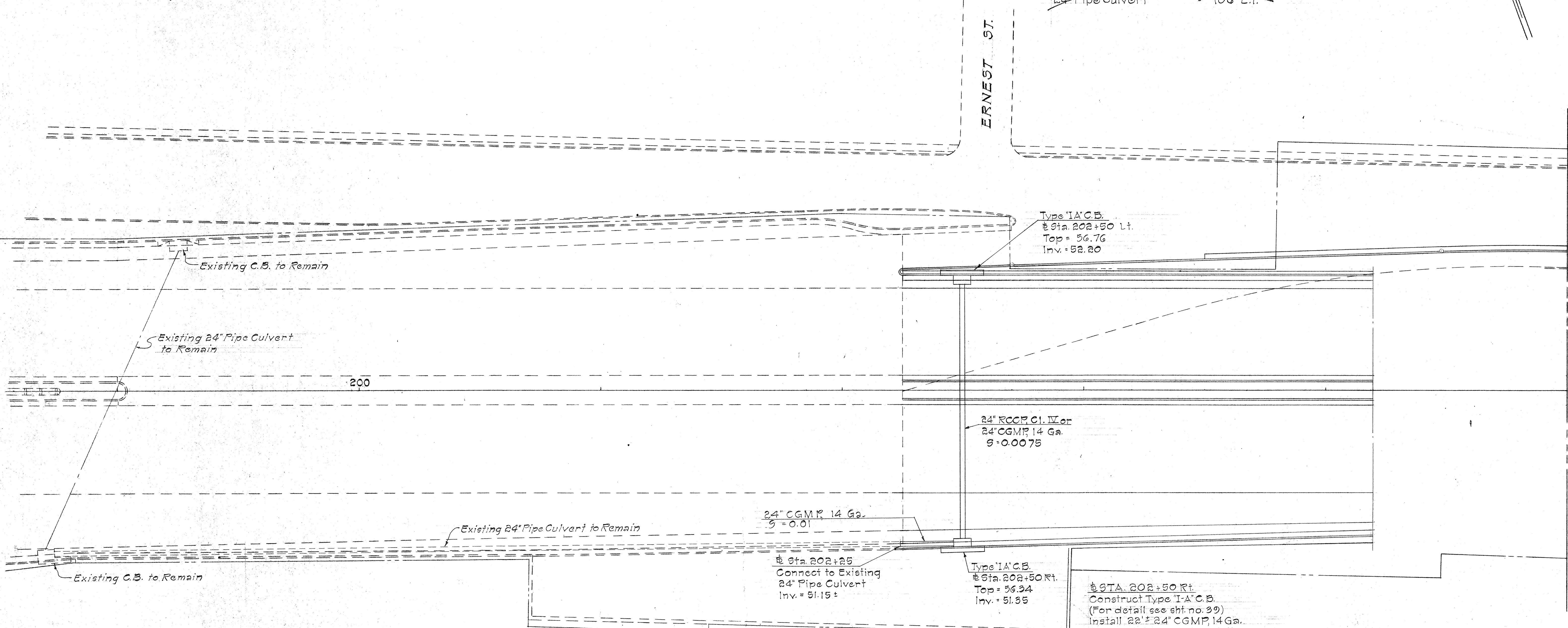
GENERAL NOTES

- Demolishing & removing of existing facilities shall not be paid for separately but shall be considered incidental to Structure Excavation.
- The ends of abandoned pipe culverts shall be plugged with brick and mortar. This work shall not be paid for separately but shall be considered incidental to Structure Excavation.
- See the Standard Details for Type "A", "B", "C" and "D" C.B. and for Type "A-1", "B-1", "C-1", "D", and "E" S.D.M.H.
- Making connections to existing facilities shall not be paid for separately but shall be considered incidental to Structure Excavation. Existing facilities that are damaged by the Contractor shall be repaired at his expense.
- For viaduct and retaining wall drains, see sheet nos. 184, 188 and 189.

STA 202+50 Lt.
 Construct Type "A" C.B.
 (For detail see sht. no. 39)
 Install 10G L.F. 24" RCCP Cl. IV or
 24" CGMP, 14 Ga.

~~ESTIMATED QUANTITIES~~
 Structure Excavation = 85 C.Y.
 Cl. "A-1" Concrete = 6.2 C.Y.
 Reinf. Steel = 391 Lbs.
 Type "A" Cl. Frame & Cover = 1 Ea.
 24" Pipe Culvert = 10G L.F.

TRUE NORTH
 Scale: 1" = 20'



MATCH LINE @ STA. 205+00
 (Detail Plan From Sta. 205+00 to 211+25 is omitted)

STA 202+50 Rt.
 Construct Type "A" C.B.
 (For detail see sht. no. 39)
 Install 22' 24" CGMP, 14 Ga.
 Make connection to existing
 24" Pipe Culvert

~~ESTIMATED QUANTITIES~~
 Structure Excavation = 32 C.Y.
 Cl. "A-1" Concrete = 6.4 C.Y.
 Reinf. Steel = 391 Lbs.
 Type "A" Cl. Frame & Cover = 1 Ea.
 24" CGMP, 14 Ga. = 22 L.F.

All the quantities shown are original
 theoretical quantities. For actual
 quantities, refer to project ledger and/or
 computation book.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

DETAIL PLAN OF DRAINAGE SYSTEM

INTERSTATE ROUTE H-1
 (Victoria St. to Keeaumoku St.)
 F.A.I. Proj. No. I-HI-1(31) Unit 2

Scale: 1" = 20' Date: April, 1967

SHEET No. D-1 OF 17 SHEETS

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

(Detail Plan from Sta. 205+00 to 211+25 is omitted)
MATCH LINE @ STA. 211 + 25

(R) RD. J STA. 52+92
Construct Type "C" C.B.
Install 34 L.F. 42" RCCP Cl. III or
48" CGMP, 10 Ga.
~~ESTIMATED QUANTITIES~~
Structure Excavation = 60 C.Y.
Cl. "A-I" Concrete = 5.3 C.Y.
Reinf. Steel = 115 Lbs.
Type "B" C.I. Frame & Cover = 1 Ea.
42" RCCP Cl. III or
48" CGMP, 10 Ga. = 34 L.F.

(R) RD. J STA. 53+00
Construct Type "D" C.B.
Install 48 L.F. 42" RCCP Cl. IV or
48" CGMP, 8 Ga.
~~ESTIMATED QUANTITIES~~
Structure Excavation = 59 C.Y.
Cl. "A-I" Concrete = 3.7 C.Y.
Reinf. Steel = 77 Lbs.
Type "B" C.I. Frame & Cover = 1 Ea.
42" RCCP Cl. IV or
48" CGMP, 8 Ga. = 48 L.F.

(R) RD. J STA. 53+97
Construct Type "D" C.B.
Install 122 L.F. 24" RCCP Cl. III or
24" CGMP, 14 Ga.
~~ESTIMATED QUANTITIES~~
Structure Excavation = 147 C.Y.
Cl. "A-I" Concrete = 4.4 C.Y.
Reinf. Steel = 74 Lbs.
Type "B" C.I. Frame & Cover = 1 Ea.
24" RCCP Cl. III or
24" CGMP, 14 Ga. = 122 L.F.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	29	217

Revised: April 23, 1968

TRUE NORTH
Scale: 1" = 20'

FRONTAGE ROAD

Freeway

(R) PIKOKI ST. STA. 3+57±
Construct 6'x4' Box Culvert
(Cast-in-place or precast at the contractor's option)
(For detail see sht. no. C.O. 37 or C.O. 379)
~~ESTIMATED QUANTITIES~~
Structure Excavation = 1670 C.Y.
Conc. in Box Culvert = (400) L.F.
Reinf. Steel in Box Culvert = (54,100) L.F.
Type "A" C.I. Frame & Cover = 1 Ea.
Restoration of Existing City Streets = 76000 S.F.

(R) PIKOKI ST. DRAIN STA. 5+35
Construct S.D.M.H. Opening
(Top detail, See sht. no. C.O. 37)
Install & connect 18" Pipe Culvert to 6'x4' Box Culvert (For detail, See sht. no. C.O. 33)
~~ESTIMATED QUANTITIES~~
Grated C.I. Frame & Cover = 1 Ea.
Cl. "B-I" Conc. = 0.5 C.Y.
18" RCCP Cl. IV = 6 L.F.
Reinf. Steel = 19 Lbs.
Structure Exc. = 4 C.Y.

(R) STA. 216+60
Construct Modified S.D.M.H.
Install 102 L.F. 54" RCCP Cl. III or
60" CGMP, 10 Ga.
~~ESTIMATED QUANTITIES~~
Structure Excavation = 481 C.Y.
Cl. "A-I" Concrete = 5.5 C.Y.
Reinf. Steel = 114 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.
54" RCCP Cl. III or
60" CGMP, 10 Ga. = 102 L.F.

ON RAMP STA. 16+60
Construct Type "C" C.B.
Install 38 L.F. 24" RCCP Cl. III or
24" CGMP, 14 Ga.
~~ESTIMATED QUANTITIES~~
Structure Excavation = 45 C.Y.
Cl. "A-I" Concrete = 4.3 C.Y.
Reinf. Steel = 126 Lbs.
Type "B" C.I. Frame & Cover = 1 Ea.
24" Pipe Culvert = 38 L.F.

Note: For Modified S.D.M.H. details,
See sheet no. CO 42.
(R) - Denotes revisions
made to original contract
plans.

* Approved: [Signature] 4/29/68
DIRECTOR OF ENGINEERING DATE
* Approval is for Drainage System Only

STA. 5+35
S.D.M.H. Opening
Top = 27.8±
Inv. = 20.0±
MATCH LINE PIKOKI ST. STA. 5+31.50±
PIKOKI DRAIN STA. 5+32.00

Existing 18" Pipe
Culvert to remain
Provide connection
to Box Culvert. Conn. Inv. = 21.5

All the quantities shown are
original theoretical quantities. For
actual quantities, refer to project
ledger and/or computation book.
MATLOCK AVE.
THIS SHEET SUPERSEDES
SHEET NO. 29

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL PLAN OF
DRAINAGE SYSTEM

INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2
Scale: 1" = 20' Date: April, 1967

SHEET No. D-2 OF 17 SHEETS

C O 29

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(31) Unit 2	1967	30	217

Revised: Dec. 5, 1967
Revised: July 18, 1968
Revised: Aug. 16, 1968

RD. "J" STA. 56+35

For SDMH Detail and Culvert Profile, See Sht. No. CO 445-1
Construct Type "B" C.B. and Type "E" SDMH
Install: 70 L.F. ~~30" RCCP, Cl. III or~~ 36" CGMP, 12 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 161 C.Y.
Cl. "A-1" Concrete = 8.0 C.Y.
Cl. "B-1" Concrete = 4.4 C.Y.
Cl. "B-1" Conc. for Sewer Line = 0.6 C.Y.
Reinf. Steel = 221 Lbs.
Reinf. Steel for Sewer Line = 35 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.
Type "B" C.I. Frame & Cover = 1 Ea.
Brickwall for SDMH = 4 L.F.
~~30" RCCP, Cl. III or~~ 36" CGMP, 12 Ga. = 70 L.F.

RD. "J" STA. 57+17

Construct Type "D" C.B.
Install: 76 L.F. ~~24" RCCP, Cl. III or~~ 30" CGMP, 14 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 81 C.Y.
Cl. "A-1" Concrete = 4.0 C.Y.
Reinf. Steel = 77 Lbs.
Type "B" C.I. Frame & Cover = 1 Ea.
~~24" RCCP, Cl. III or~~ 30" CGMP, 14 Ga. = 76 L.F.

RD. "J" STA. 59+70 L.

For SDMH Detail and Culvert Profile See Sht. No. CO 445-1
Construct Type "A" C.B. and Type "E" SDMH
Install: 14 L.F. ~~30" RCCP, Cl. III or~~ 30" CGMP, 14 Ga.

ESTIMATED QUANTITIES

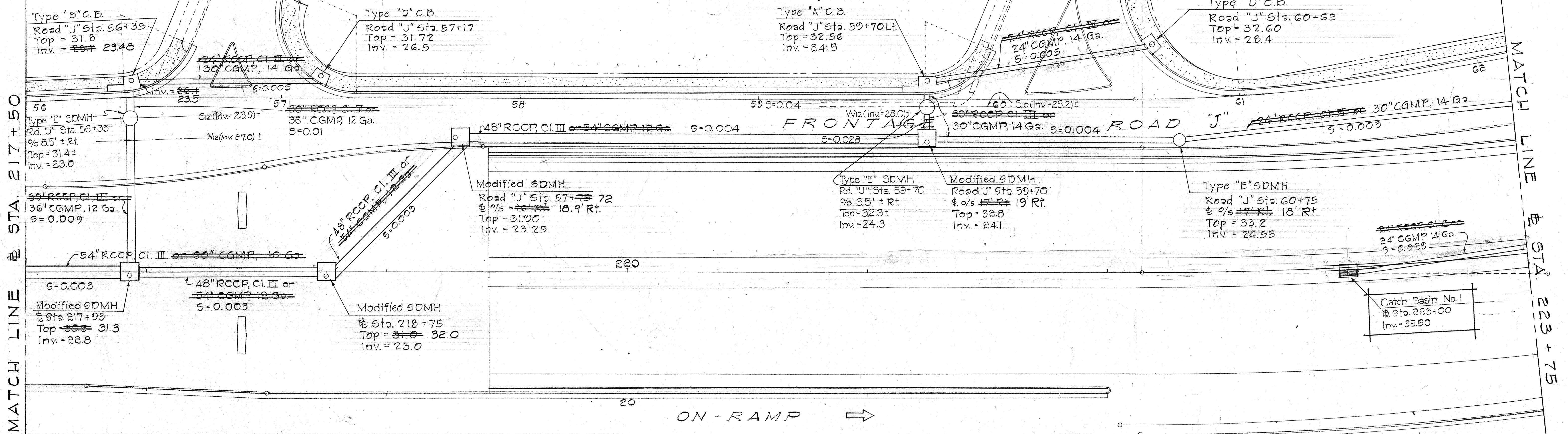
Structure Excavation = 57 C.Y.
Cl. "A-1" Concrete = 11.3 C.Y.
Cl. "B-1" Concrete = 4.0 C.Y.
Cl. "B-1" Conc. for Sewer Line = 0.6 C.Y.
Reinf. Steel = 235 Lbs.
Reinf. Steel for Sewer Line = 35 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.
Type "B" C.I. Frame & Cover = 1 Ea.
Brickwall for SDMH = 4 L.F.
~~30" RCCP, Cl. III or~~ 30" CGMP, 14 Ga. = 14 L.F.

RD. "J" STA. 60+62

Construct Type "D" C.B.
Install 90 L.F. ~~24" RCCP, Cl. III or~~ 24" CGMP, 14 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 78 C.Y.
Cl. "A-1" Conc. = 3.7 C.Y.
Reinf. Steel = 77 Lbs.
Type "B" C.I. Frame & Cover = 1 Ea.
~~24" Pipe Culvert~~ = 90 L.F.



STA. 217+93

Construct Modified SDMH
Install 188 L.F. ~~54" RCCP, Cl. III or~~ 54" CGMP, 14 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 320 C.Y.
Cl. "A-1" Concrete = 3.7 C.Y.
Reinf. Steel = 114 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.
~~54" RCCP, Cl. III or~~ 54" CGMP, 14 Ga. = 188 L.F.

STA. 218+75

Construct Modified SDMH
Install: 76 L.F. ~~48" RCCP, Cl. III or~~ 54" CGMP, 14 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 192 C.Y.
Cl. "A-1" Concrete = 4.2 C.Y.
Reinf. Steel = 114 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.
~~48" RCCP, Cl. III or~~ 54" CGMP, 14 Ga. = 76 L.F.

RD. "J" STA. 57+75-72

Construct Modified SDMH
Install 76 L.F. ~~48" RCCP, Cl. III or~~ 54" CGMP, 14 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 180 C.Y.
Cl. "A-1" Concrete = 5.5 C.Y.
Reinf. Steel = 114 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.
~~48" RCCP, Cl. III or~~ 54" CGMP, 14 Ga. = 76 L.F.

RD. "J" STA. 59+70 RT

Construct Modified SDMH
Install: 190 L.F. ~~48" RCCP, Cl. III or~~ 54" CGMP, 14 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 445 C.Y.
Cl. "A-1" Concrete = 5.5 C.Y.
Reinf. Steel = 114 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.
~~48" RCCP, Cl. III or~~ 54" CGMP, 14 Ga. = 190 L.F.

RD. "J" STA. 60+75

Construct Type "E" SDMH
Install: 100 L.F. ~~24" RCCP, Cl. III or~~ 30" CGMP, 14 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 182 C.Y.
Cl. "B-1" Concrete = 23 C.Y.
Reinf. Steel = 100 Lbs.
Brick Wall for SDMH = 4.0 L.F.
Type "A" C.I. Frame & Cover = 1 Ea.
~~30" RCCP, Cl. III or~~ 30" CGMP, 14 Ga. = 100 L.F.

STA. 223+00
Construct C.B. with 2' Grates
For details, See Sht. No. CO 399(3) & 5(4)
Install 170 L.F. ~~24" RCCP, Cl. III or~~ 24" CGMP, 14 Ga.

ESTIMATED QUANTITIES

Structure Excavation = 235 C.Y.
Cl. "A-1" Concrete = 2 C.Y.
Reinf. Steel = 118 Lbs.
~~24" Pipe Culvert~~ = 170 L.F.
Type "B" Steel Frame & Grate = 2 Ea.

NOTE: For Modified SDMH details,
See sheet no. CO 42.

THIS SHEET SUPERSEDES
SHEET NO. 30

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL, PLAN OF
DRAINAGE SYSTEM

INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. 1-HI-1(31) Unit 2

Scale: 1"=20' Date: April, 1967

SHEET NO. D-3 OF 17 SHEETS

CO 30

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	31	217

Revised: Dec. , 1967
Revised: Aug. 16, 1968

RD "J" STA. 63+00
Construct Type "E" S.D.M.H.
Install 226 L.F. ~~24" RCCP, Cl. III or 30" CGMP, 14 Ga.~~
ESTIMATED QUANTITIES
Structure Excavation = 340 C.Y.
Cl. "B-1" Concrete = 20 C.Y.
Reinf. Steel = 94 Lbs.
Brick Wall For S.D.M.H. = 40 L.F.
Type "A" C.I. Frame & Cover = 1 Ea.
24" RCCP, Cl. III or 30" CGMP, 14 Ga. = 226 L.F.

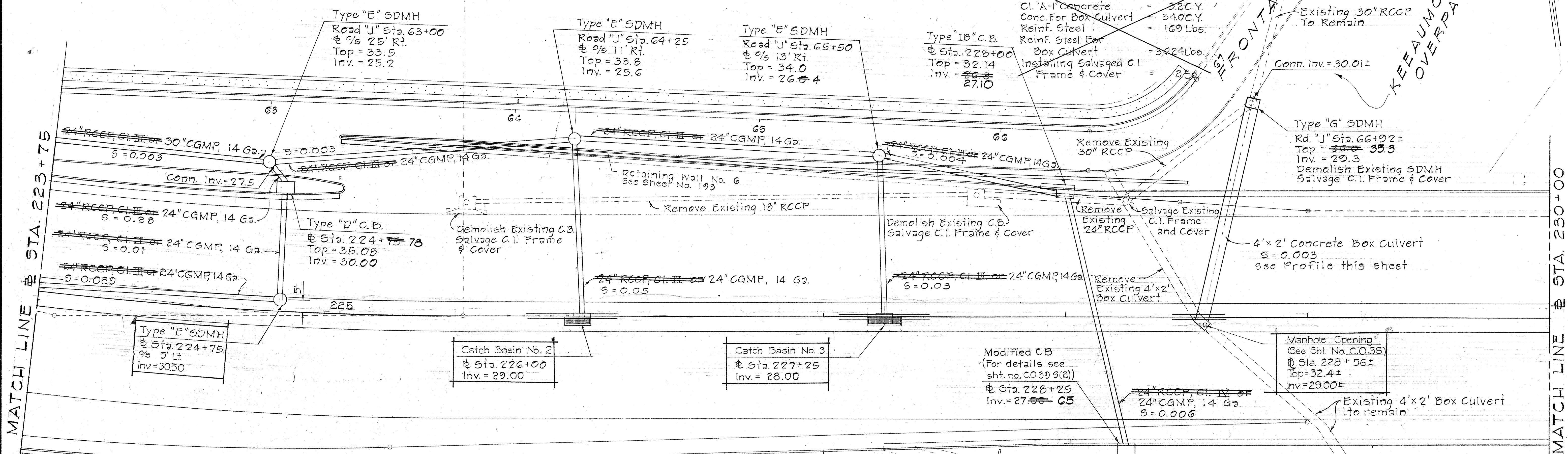
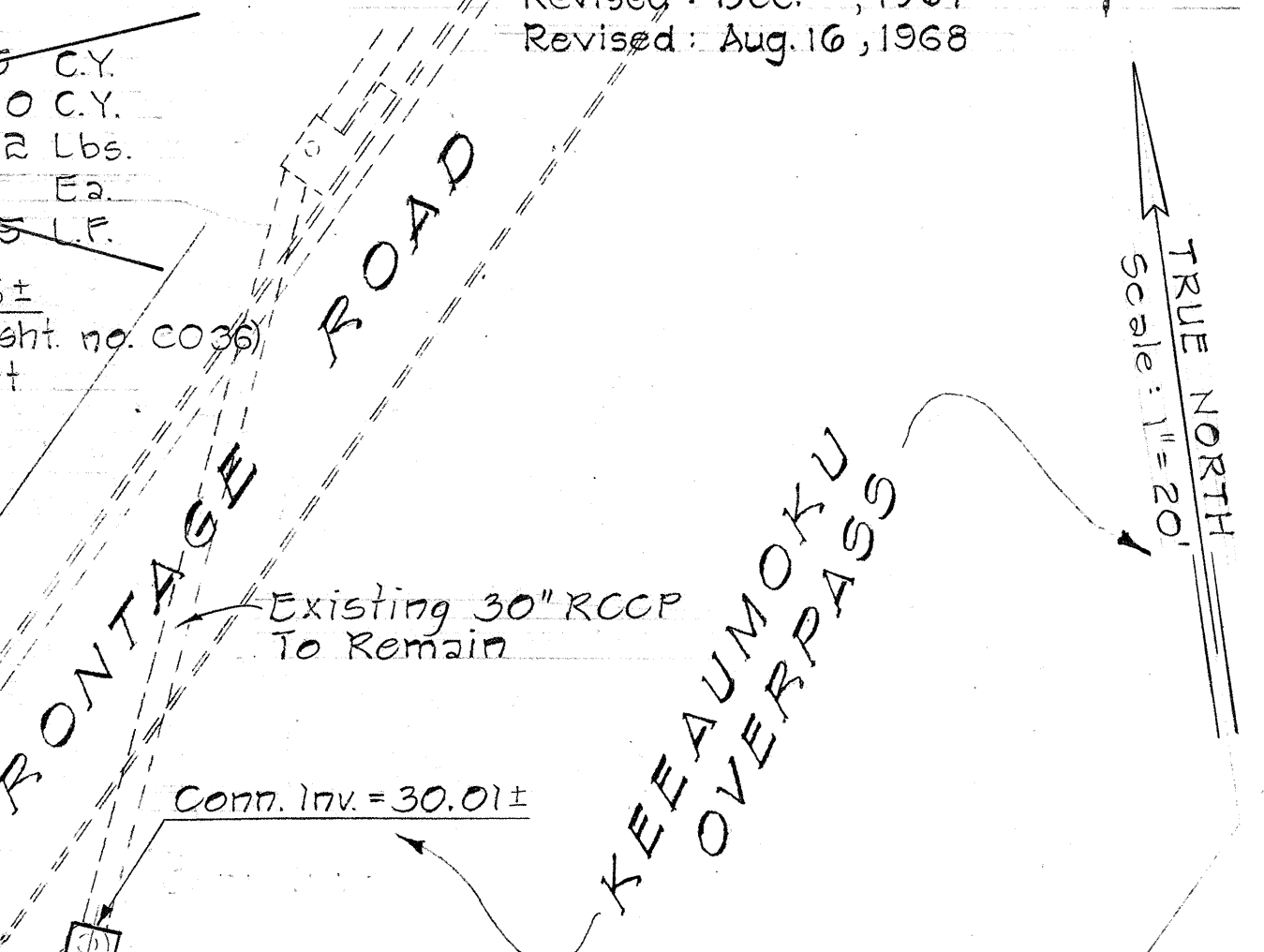
STA. 224+75
Construct Type "D" C.B.
Install: 10 L.F. ~~24" RCCP, Cl. III or 24" CGMP, 14 Ga.~~
Salvaged C.I. Frame & Cover
ESTIMATED QUANTITIES
Structure Excavation = 22 C.Y.
Cl. "A-1" Concrete = 3.8 C.Y.
Reinf. Steel = 77 Lbs.
Installing Salvaged C.I. Frame & Cover = 1 Ea.
24" Pipe Culvert = 10 L.F.

RD "J" STA. 64+25
Construct Type "E" S.D.M.H.
Install 124 L.F. ~~24" RCCP, Cl. III or 24" CGMP, 14 Ga.~~
ESTIMATED QUANTITIES
Structure Excavation = 186 C.Y.
Cl. "B-1" Concrete = 20 C.Y.
Reinf. Steel = 90 Lbs.
Brick Wall For S.D.M.H. = 40 L.F.
Type "A" C.I. Frame & Cover = 1 Ea.
24" Pipe Culvert = 124 L.F.

RD "J" STA. 65+50
Construct Type "E" S.D.M.H.
Install 123 L.F. ~~24" RCCP, Cl. III or 24" CGMP, 14 Ga.~~
ESTIMATED QUANTITIES
Structure Excavation = 182 C.Y.
Cl. "B-1" Concrete = 20 C.Y.
Reinf. Steel = 90 Lbs.
Brick Wall For S.D.M.H. = 40 L.F.
Type "A" C.I. Frame & Cover = 1 Ea.
24" Pipe Culvert = 123 L.F.

STA. 228+00
Construct Type "IB" C.B.
(For detail see sht. no. 30)
Install: 75 L.F. ~~24" RCCP, Cl. III or 24" CGMP, 14 Ga.~~
ESTIMATED QUANTITIES
Structure Excavation = 108 C.Y.
Cl. "A-1" Concrete = 6.0 C.Y.
Reinf. Steel = 352 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.
24" Pipe Culvert = 75 L.F.

RD "J" STA. 66+22 TO STA. 228+56±
Construct: S.D.M.H. (For details see sht. no. C036)
80' ± 4' x 2' Conc. Box Culvert
(For details see sht. no. 35)
Install: 2 Ea. Salvaged C.I. Frame & Cover
ESTIMATED QUANTITIES
Structure Excavation = 118 C.Y.
Cl. "A-1" Concrete = 32 C.Y.
Conc. For Box Culvert = 340 C.Y.
Reinf. Steel = 169 Lbs.
Reinf. Steel For Box Culvert = 3524 Lbs.
Installing Salvaged C.I. Frame & Cover = 2 Ea.

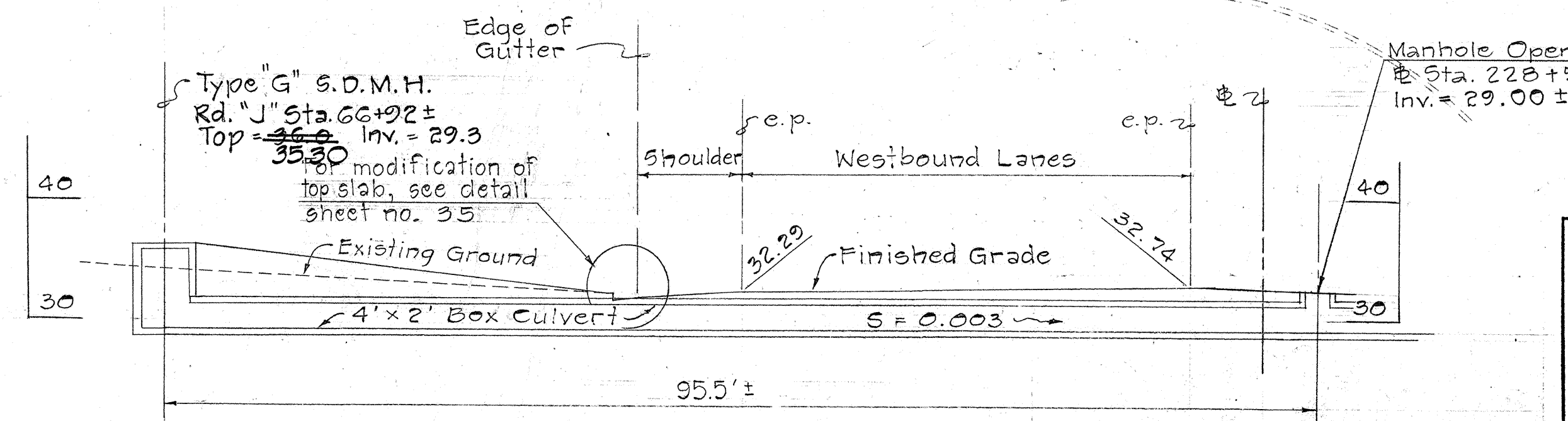


STA. 224+75
Construct Type "E" S.D.M.H.
Install 44 L.F. ~~24" RCCP, Cl. III or 24" CGMP, 14 Ga.~~
ESTIMATED QUANTITIES
Structure Excavation = 49 C.Y.
Cl. "B-1" Concrete = 20 C.Y.
Reinf. Steel = 97 Lbs.
Brick Wall For S.D.M.H. = 40 L.F.
Type "A" C.I. Frame & Cover = 1 Ea.
24" Pipe Culvert = 44 L.F.

STA. 227+25
Construct C.B. with 4 Grates
For Details, See Sht. No. C039(3) & (4)
Install: 66 L.F. ~~24" RCCP, Cl. III or 24" CGMP, 14 Ga.~~
ESTIMATED QUANTITIES
Structure Excavation = 85 C.Y.
Cl. "A-1" Concrete = 6 C.Y.
Reinf. Steel = 118 Lbs.
Type "3" Steel Frame & Grate = 4 Ea.
24" Pipe Culvert = 66 L.F.

STA. 226+00
Construct C.B. with 3 Grates
For Details, See Sht. No. C039(3) & (4)
Install: 71 L.F. ~~24" RCCP, Cl. III or 24" CGMP, 14 Ga.~~
ESTIMATED QUANTITIES
Structure Excavation = 100 C.Y.
Cl. "A-1" Concrete = 5 C.Y.
Reinf. Steel = 118 Lbs.
Type "3" Steel Frame & Grate = 3 Ea.
24" Pipe Culvert = 71 L.F.

STA. 228+25
Construct Modified C.B.
Install 106 L.F. ~~24" RCCP, Cl. III or 24" CGMP, 14 Ga.~~
ESTIMATED QUANTITIES
Structure Excavation = 80 C.Y.
Cl. "A-1" Concrete = 37 C.Y.
Reinf. Steel = 85 Lbs.
Type "A-2" Frame & Grate = 1 Ea.
24" Pipe Culvert = 106 L.F.



PROFILE OF 4' x 2' BOX CULVERT

Scale: Hor. 1" = 10' - 0"
Vert. 1" = 10' - 0"

All the quantities shown are original theoretical quantities. For actual quantities, refer to project ledger and/or computation book.

THIS SHEET SUPERSEDES SHEET NO. 31

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL PLAN OF
DRAINAGE SYSTEM

INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2

Scale: As Shown Date: April, 1967

SHEET No. 17 OF 17 SHEETS

C 0 3 1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	32	217

Revised: Aug. 16, 1968

TRUE NORTH
Scale: 1"=20'

STA. 230+10±
Reconstruct Existing C.B. to S.D.M.H.
Salvage Existing Steel Frame & Grate
For Details, See Sheet No. C.O. 32 9(1)

~~ESTIMATED QUANTITIES~~
Structure Exc. = 8.0 C.Y.
Cl. A-1 Conc. = 2.0 C.Y.
Reinf. Steel = 106 Lbs.
Type "A" C.I. Frame & Cover = 1 Ea.

STA. 230+50
Construct C.B. with 6 Grates
For Details, See Sht. No. C.O. 32 9(3) & 9(4)
Install: 36 L.F. ~~24" RCCP, Cl. III~~
24" CGMP 14 Ga.

~~ESTIMATED QUANTITIES~~
Structure Excavation = 32 C.Y.
Cl. "A-1" Concrete = 5 C.Y.
24" Pipe Culvert = 36 L.F.
Type "S" Steel Frame & Grate = 6 Ea.

STA. 234+25
Reconstruct Existing C.B.
Salvage Existing Steel Frame & Grate
For Details, See Sheet No. C.O. 32 9(1)

~~ESTIMATED QUANTITIES~~
Structure Excavation = 5 C.Y.
Cl. "A-1" Conc. = 2 C.Y.
Reinf. Steel = 160 Lbs.
Type "S" Steel Frame & Grate = 2 Ea.

MATCH LINE @ STA. 230+00

Reconstruct Existing C.B. to S.D.M.H.
Top = 35.1±
Inv. = 28.90±
24" RCCP, Cl. III or
24" CGMP 14 Ga.
S = 0.028

Connecting Inv. = 30.0
Concrete Jacket
Inv. = 28.90±

Catch Basin No. 4
Sta. 230+50
Inv. = 31.0

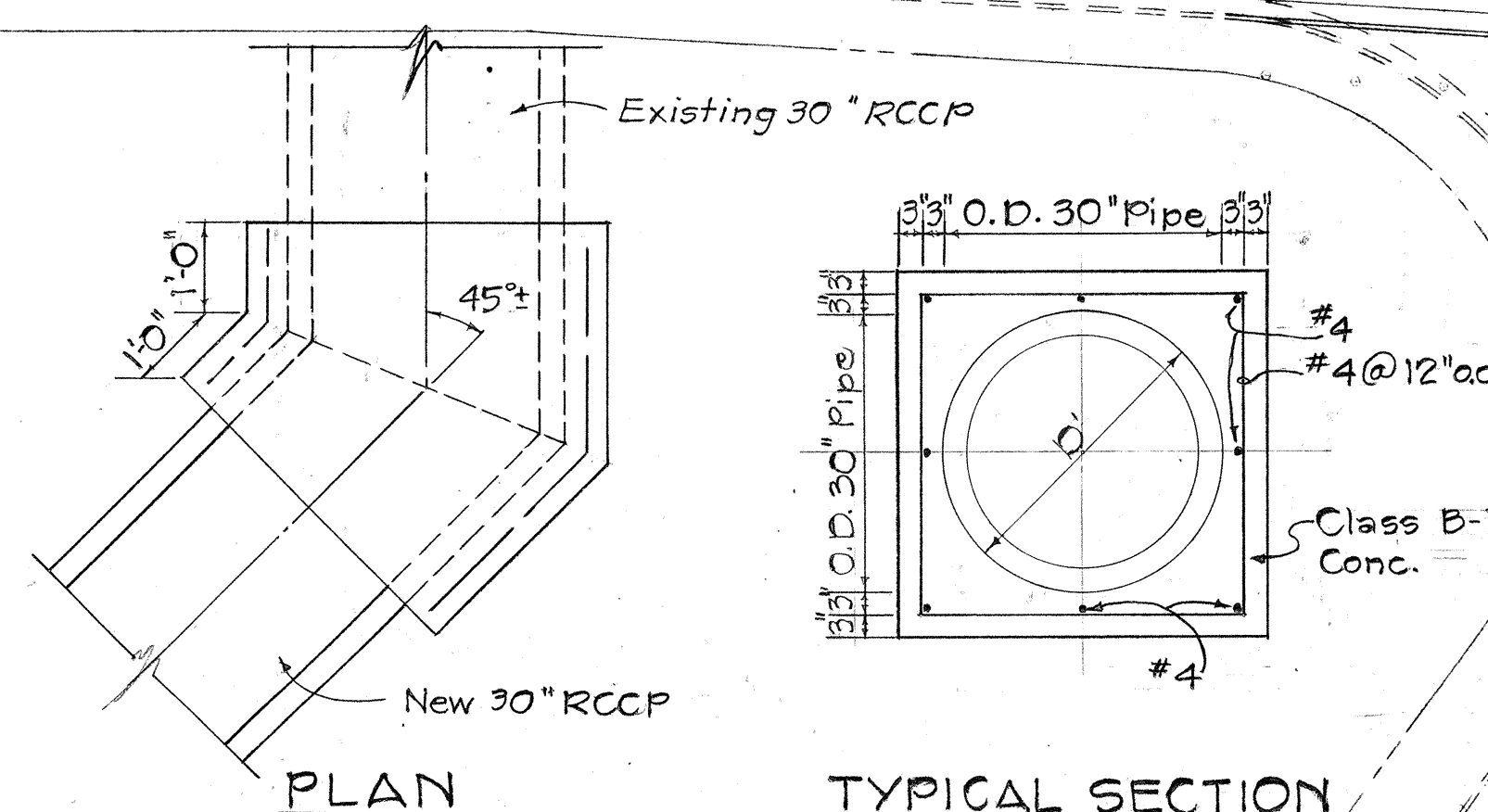
Demolish Existing C.B.
Salvage Existing C.I. Frame & Cover

30" RCCP, Cl. IV

Type "B" C.B.
Sta. 230+01±
Top = 33.83
Inv. = 28.8

STA. 230+01±
Construct: Type "B" C.B.
Concrete Jacket
(See detail this sheet)
Install: 14 L.F. 30" RCCP Cl. IV
Salvaged C.I. Frame & Cover

~~ESTIMATED QUANTITIES~~
Structure Excavation = 35 C.Y.
Cl. A-1 Conc. = 3.9 C.Y.
Cl. B-1 Conc. = 1.3 C.Y.
Reinf. Steel = 112 Lbs.
Installing Salvaged C.I. Frame & Cover = 1 Ea.
30" RCCP, Cl. IV = 14 L.F.



DETAIL OF CONCRETE JACKET
AT STA. 230+08±

Scale: 1/2" = 1'-0"

End Gutter OFF-RAMP TO PUNAHOU ST.

THIS SHEET SUPERSEDES
SHEET NO. 32

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL PLAN OF
DRAINAGE SYSTEM

INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2

Scale: 1" = 20' Date: April, 1967

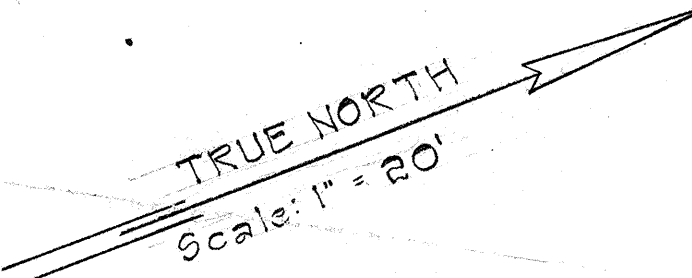
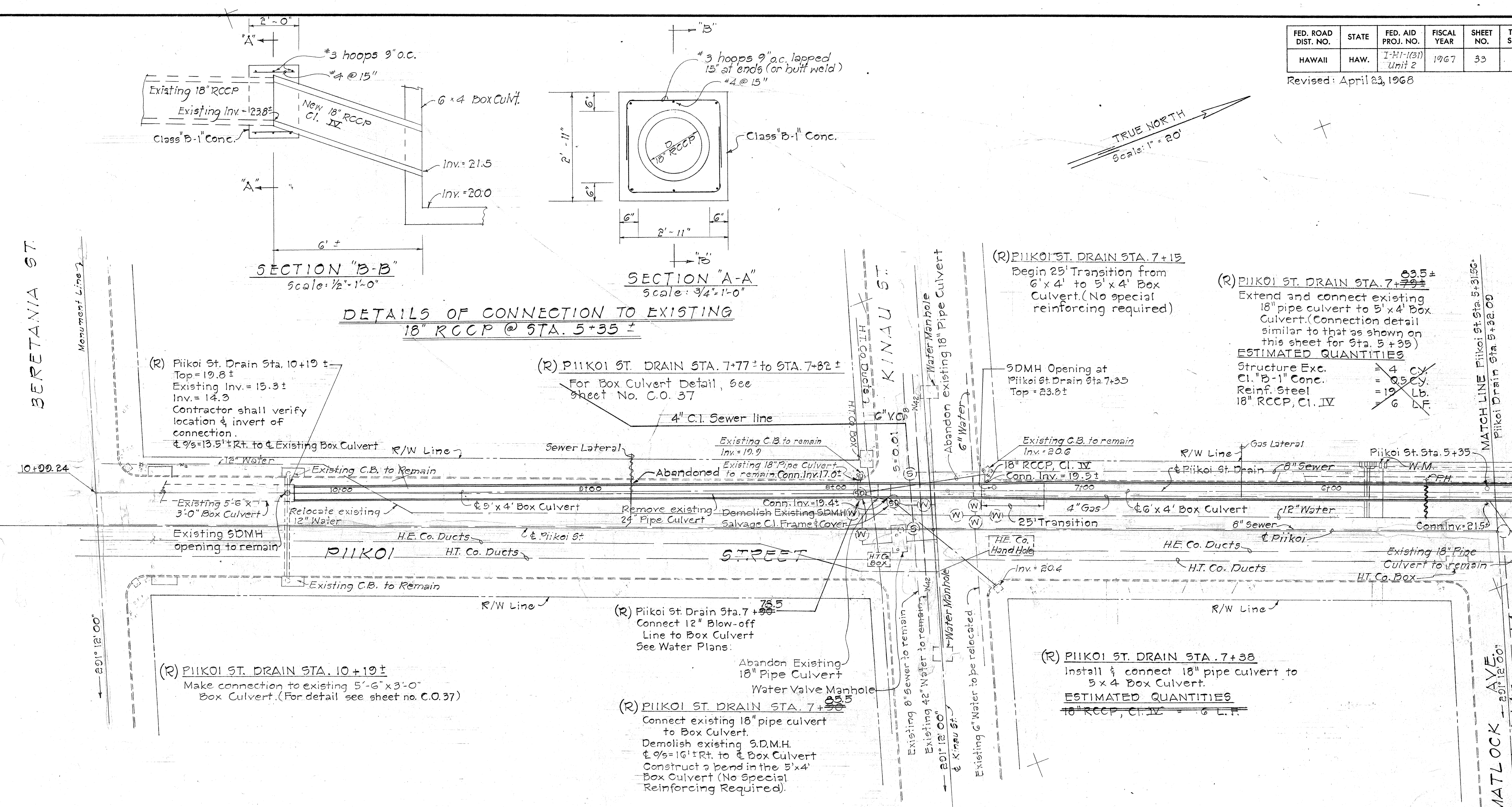
SHEET No. D-5 OF 17 SHEETS

All the quantities shown are original
theoretical quantities. For actual
quantities, refer to project ledger
and/or computation book.

C O 32

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	33	217

Revised: April 23, 1968



SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

(R) PIKIKOI ST. DRAIN STA. 7+35
Construct SDMH opening
(For detail, see sheet No. C.O. 37)
Install Grated C.I. Frame & Cover

ESTIMATED QUANTITIES
Grated C.I. Frame & Cover = 1 Ea.

* Approval is for Drainage System Only.
(R) - Denotes Revisions made to original contract plans.

THIS SHEET SUPERSEDES
SHEET NO. 33.

* Approved:
By: *[Signature]* 4/29/68
DIRECTOR, DIV. OF ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL PLAN OF
DRAINAGE SYSTEM

INTERSTATE ROUTE H-1
(Victoria St to Kesaumoku St)
F.A.I. Proj. No. I-HI-1(31) Unit 2

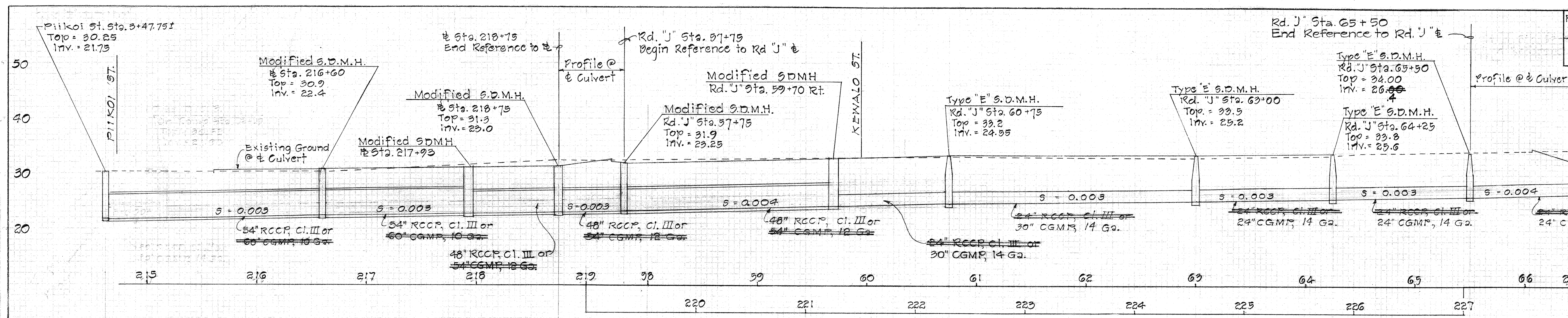
Scale: 1" = 20' Date: April, 1967

SHEET No. D-6 OF 17 SHEETS

(C) (1) (3) (3)

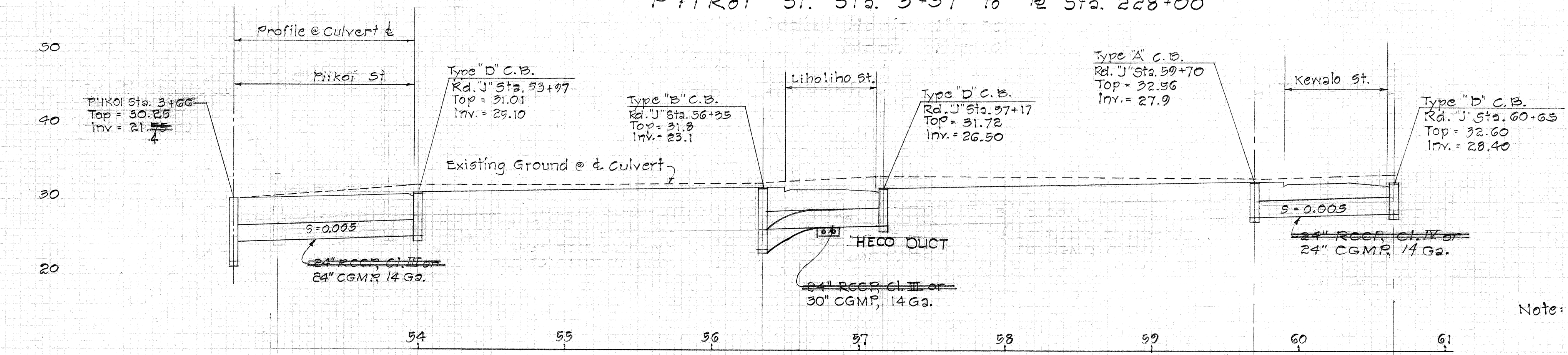
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	34	217

Revised: April 23, 1968



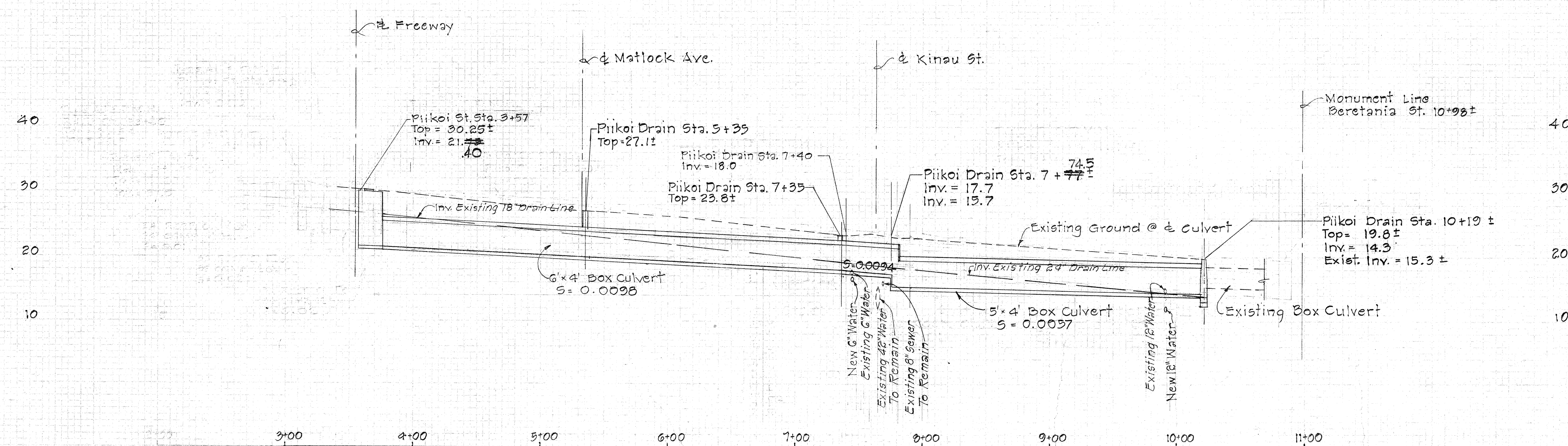
PROFILE OF LUNALILO FREEWAY DRAINAGE SYSTEM
Piikoi St. Sta. 3+57 to Sta. 228+00

Note: Stationing referenced to Base Line and Road "J" Station Line. Unless otherwise noted, pipe culvert lengths shown do not represent actual lengths.



PROFILE OF ROAD "J" DRAINAGE SYSTEM

Note: Stationing referenced to Rd. "J" Station Line. Pipe Culvert lengths do not represent actual lengths.



PROFILE OF PIIKOI ST. DRAINAGE SYSTEM

Scale: Horiz. 1" = 50'
Vert. 1" = 10'

Note: Stationing referenced to Piikoi St. Centerline and Piikoi Drain Centerline. Box Culvert lengths shown do not represent actual lengths.

THIS SHEET SUPERSEDES SHEET NO. 34.

Approved: *[Signature]* 4/29/68
DIRECTOR, DIV. OF ENGINEERING DATE

*Approval is for Drainage System Only.

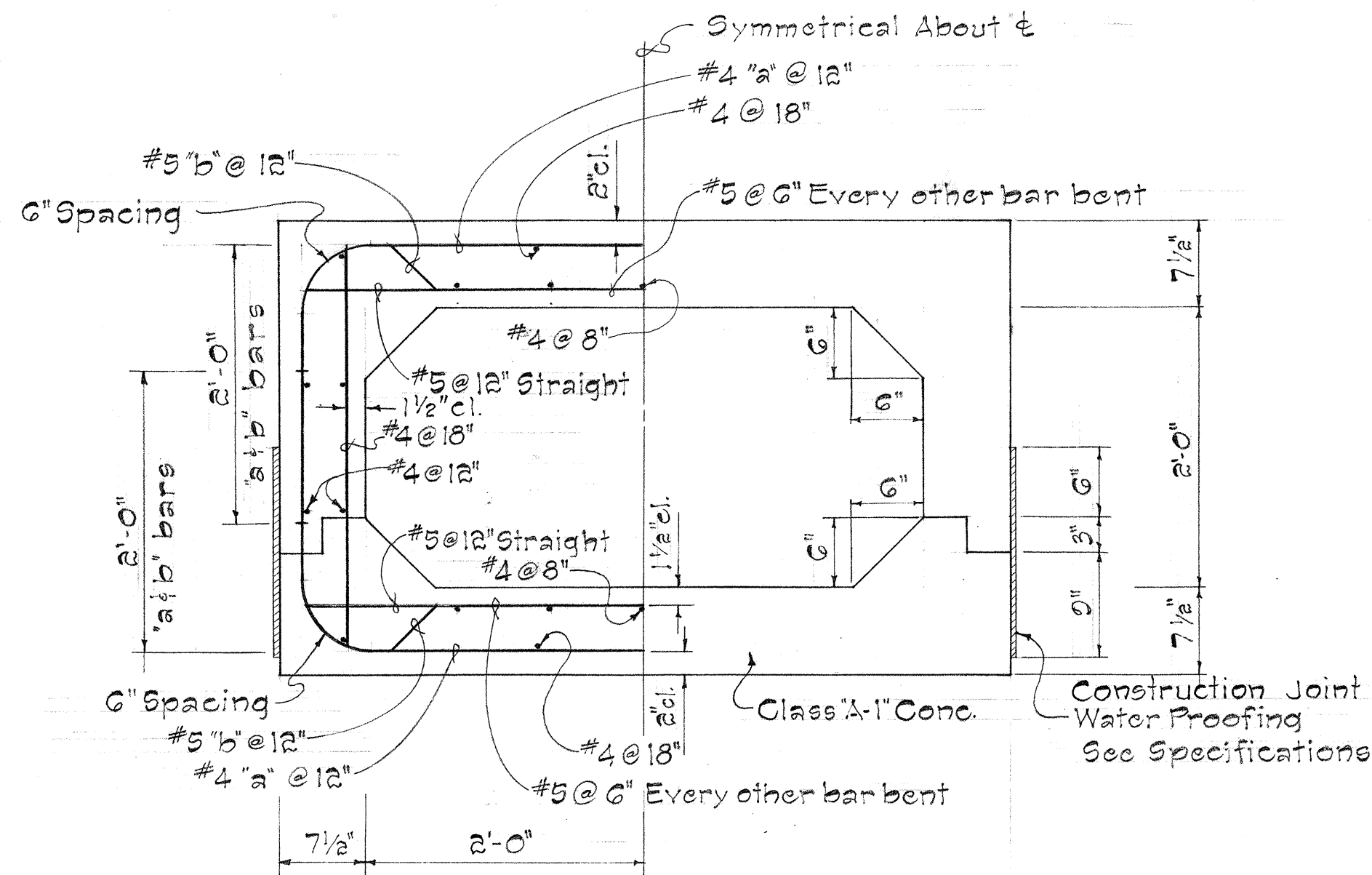
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
CULVERT PROFILES

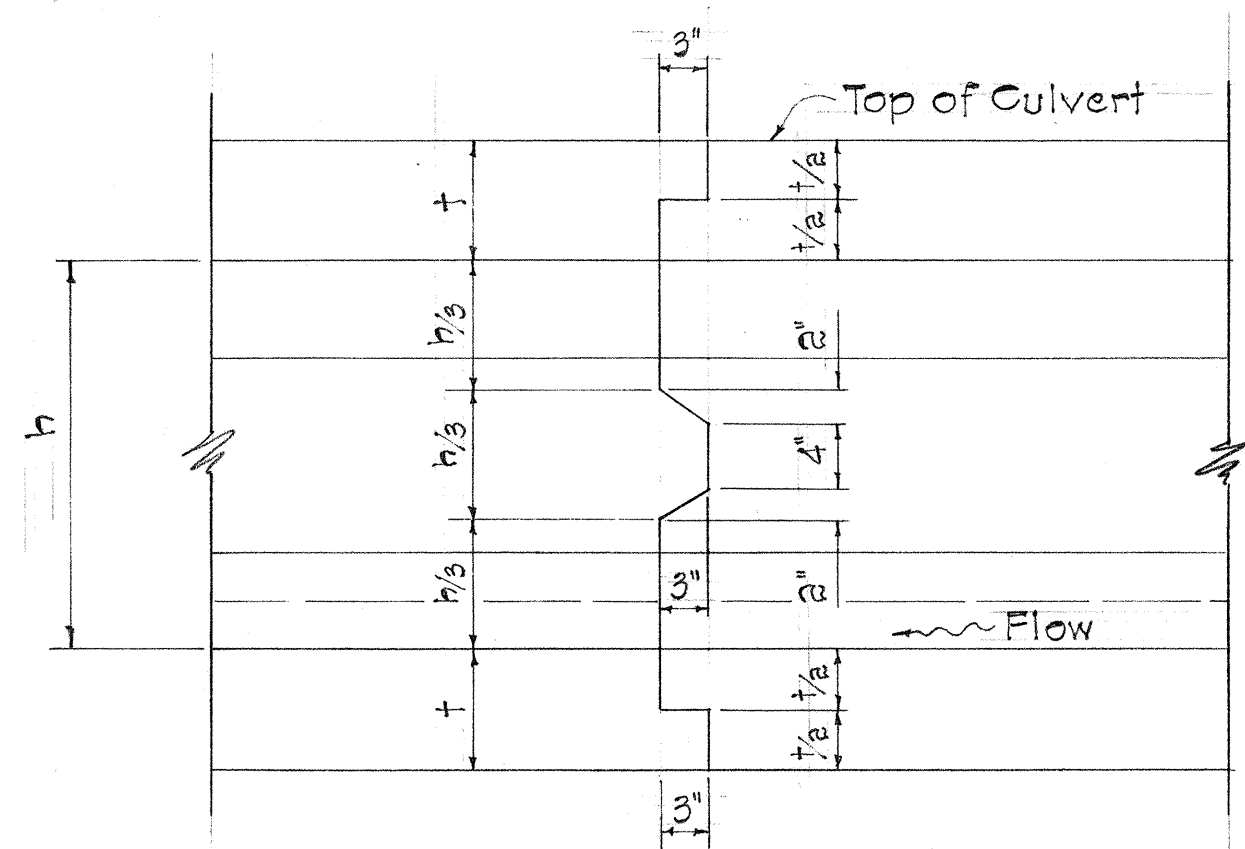
INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2
Scale: As Shown Date: April, 1967
SHEET No. D-7 OF 17 SHEETS

C O 3 4

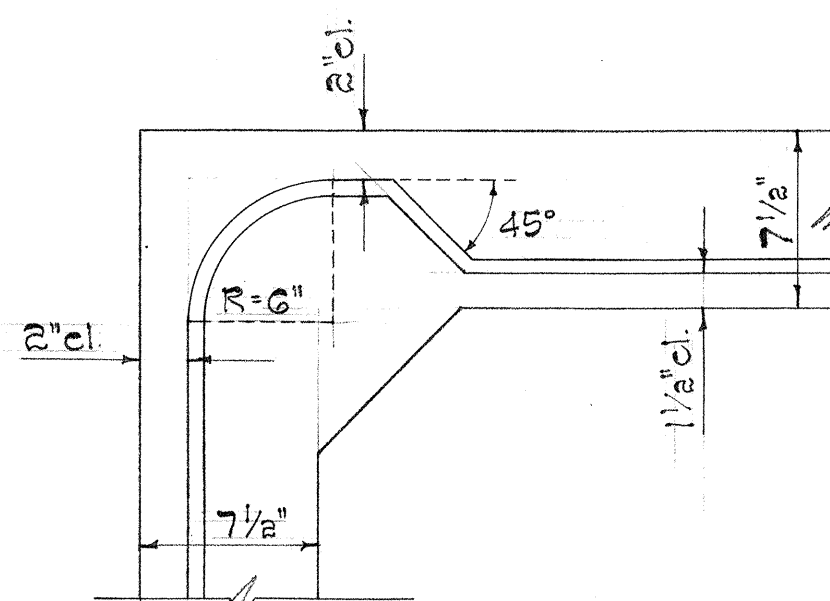
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967		



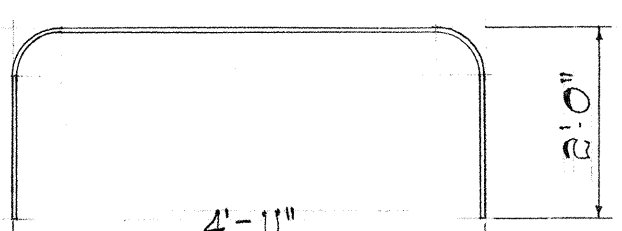
TYPICAL SECTION - 4' x 2' BOX CULVERT
Scale: 1" = 1'-0"



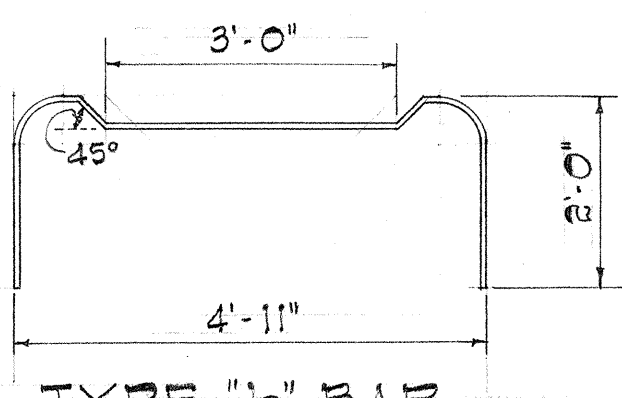
TYPICAL ELEVATION VIEW OF
CONSTRUCTION JOINT DETAIL
Scale: 1" = 1'-0"



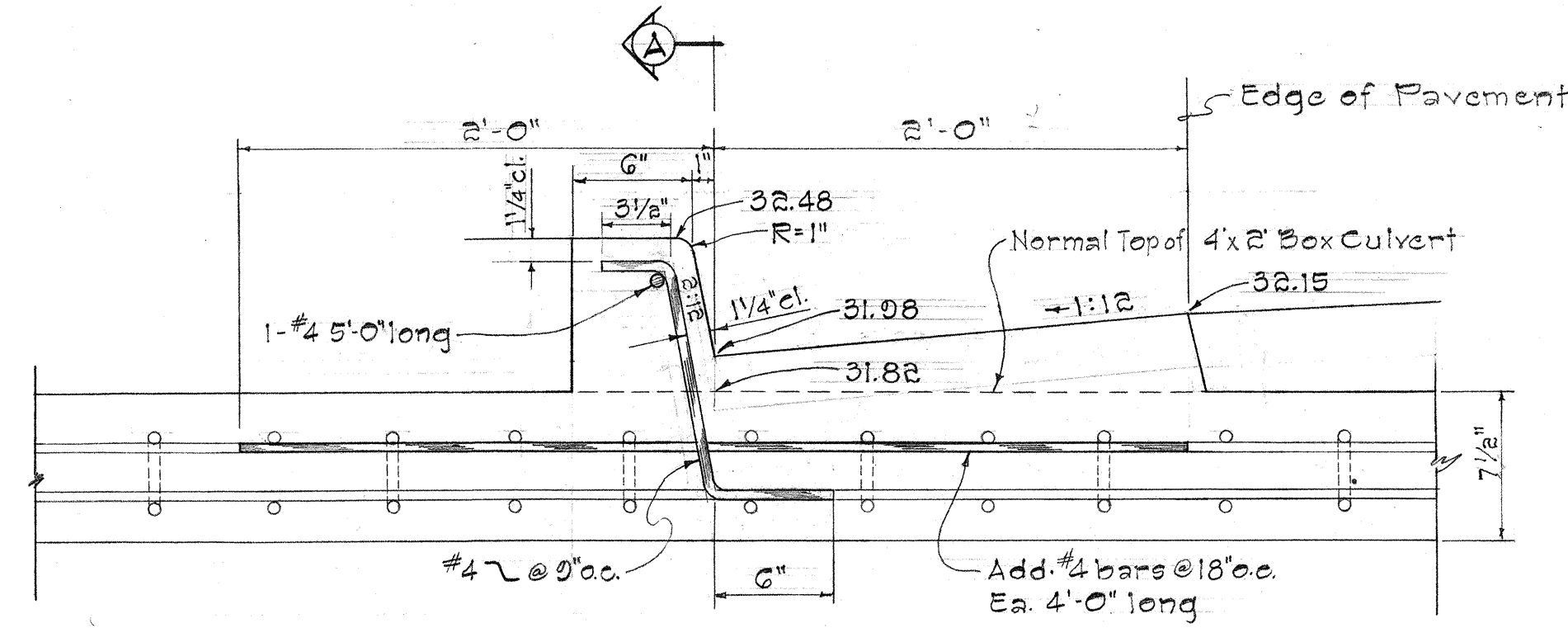
TYPICAL BEND OF
MAIN BAR
Scale: 1 1/2" = 1'-0"



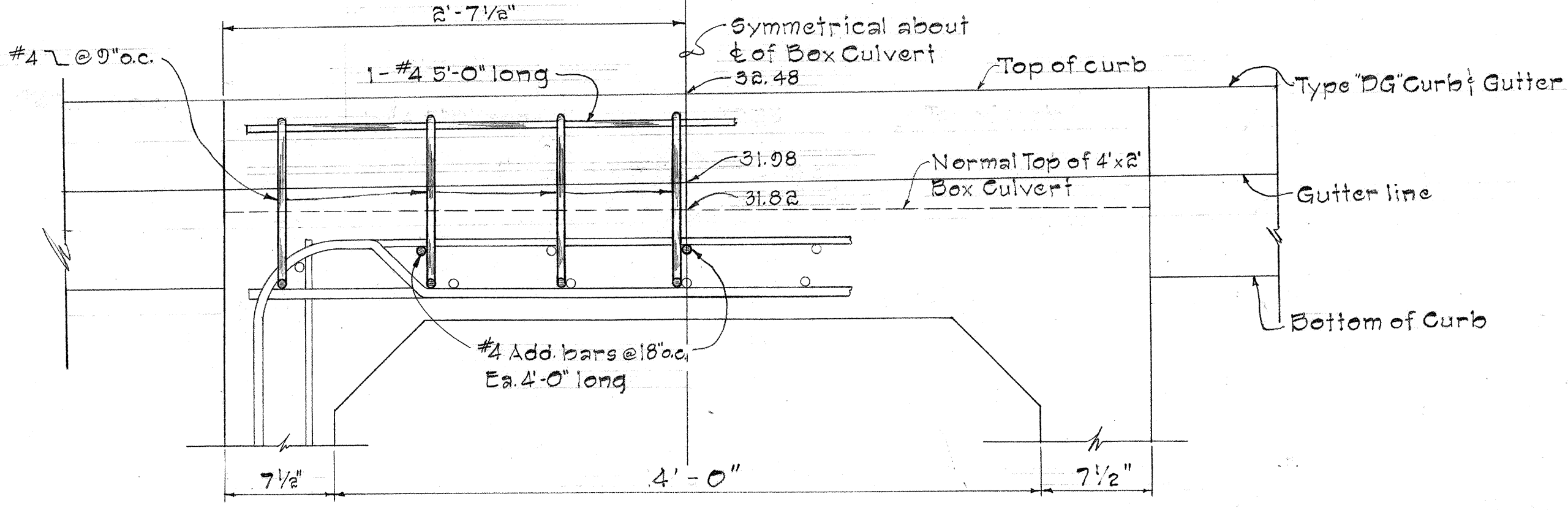
TYPE "a" BAR
Scale: 1/2" = 1'-0"



TYPE "b" BAR
Scale: 1/2" = 1'-0"



ELEVATION VIEW ALONG CENTERLINE



SECTION "A-A"

Note: 1. Shaded reinforcement indicates additional bars to be installed. Normal box culvert reinforcing bars are not shaded.
2. Concrete shall be class A-1

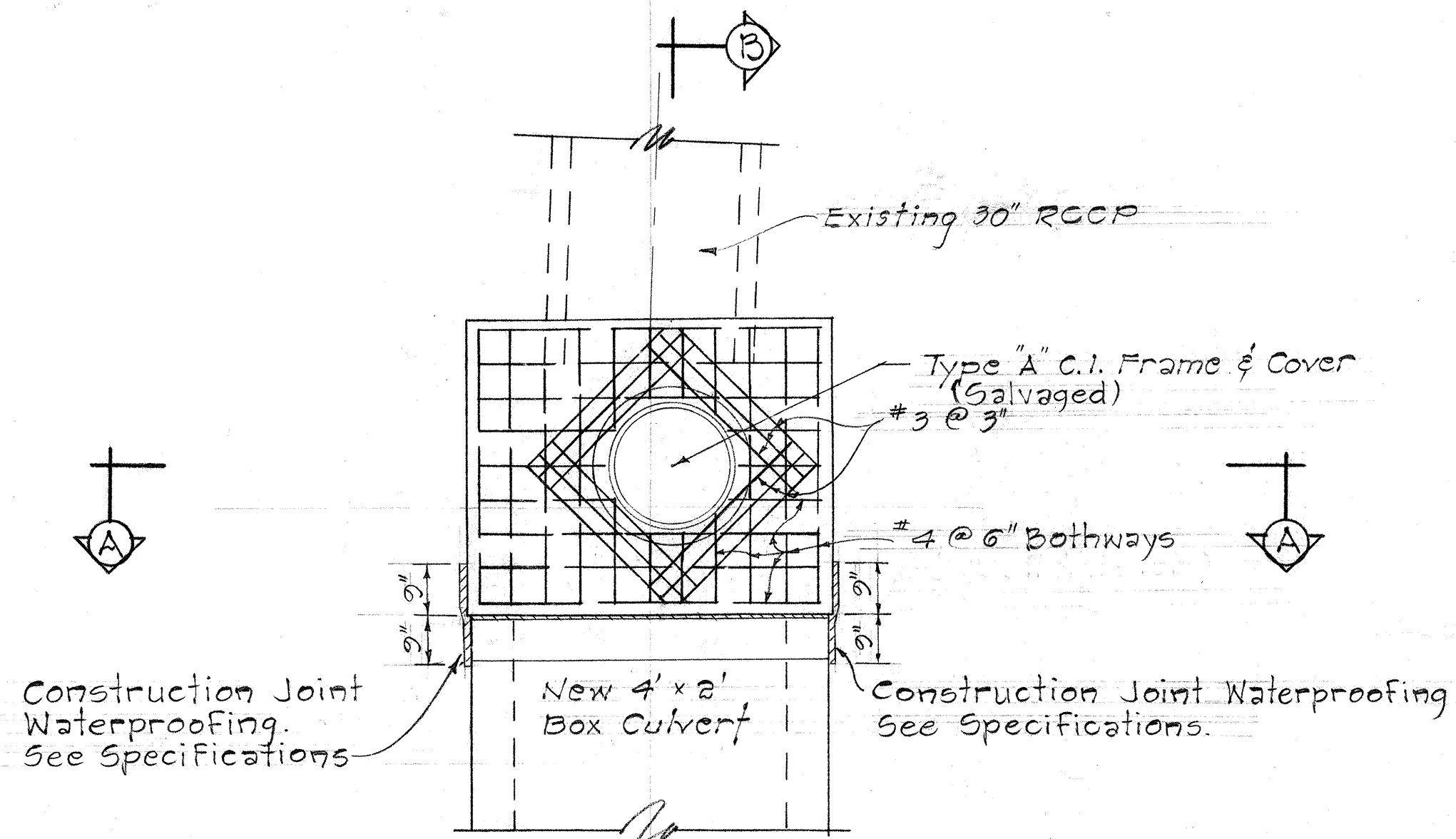
TOP SLAB DETAIL OF 4' x 2' BOX CULVERT
AT STA. 228+60 ±
Scale: 1/2" = 1'-0"

DETAILS OF 4' x 2' BOX CULVERT

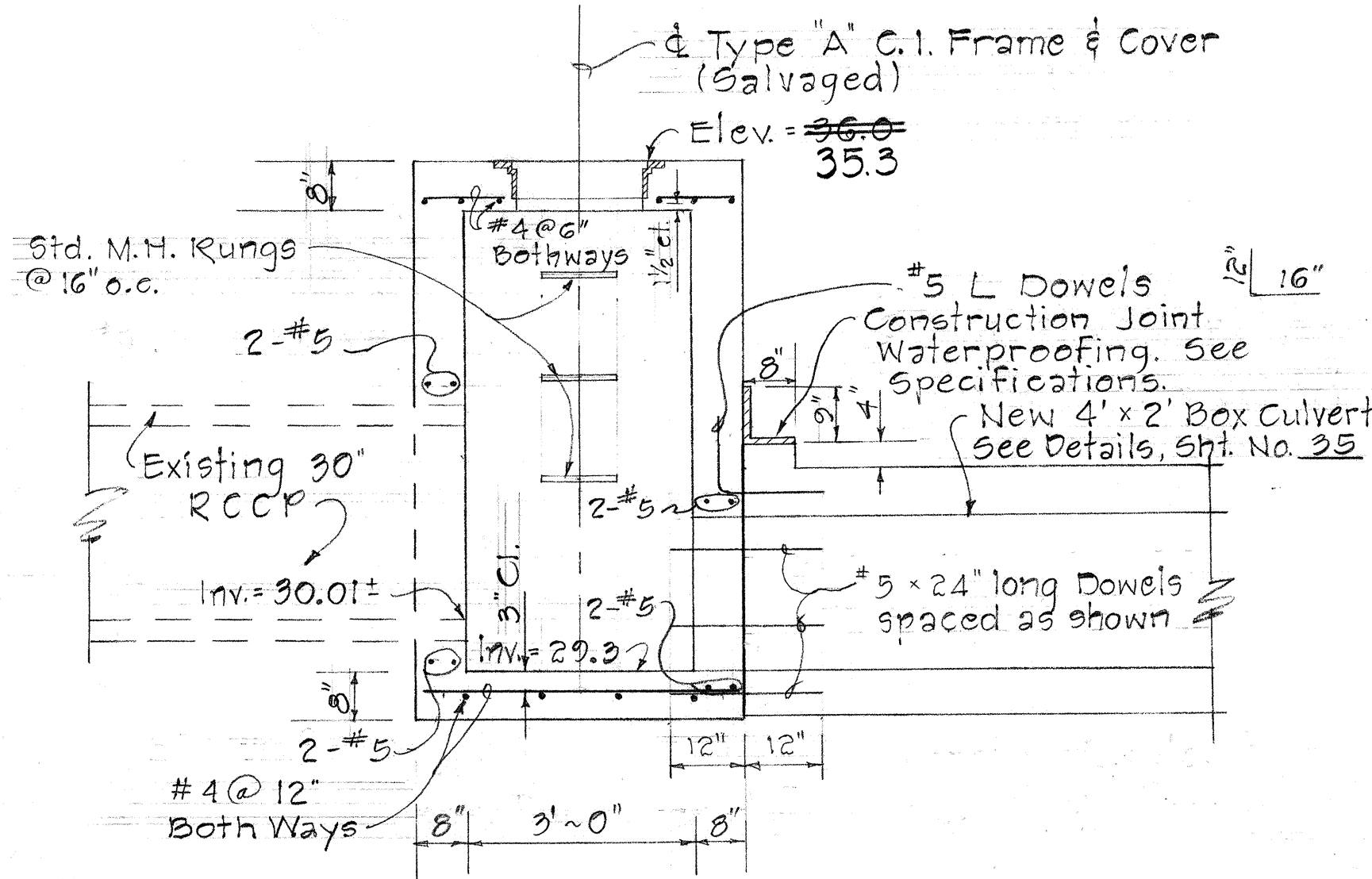
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
4' x 2' BOX CULVERT DETAILS
INTERSTATE ROUTE H-1
(Victoria St to Keeaumoku St)
F.A.I. Proj. No. I-HI-1(31) Unit 2
Scale: As Shown Date: April, 1967
SHEET No. 0-8 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	60	217

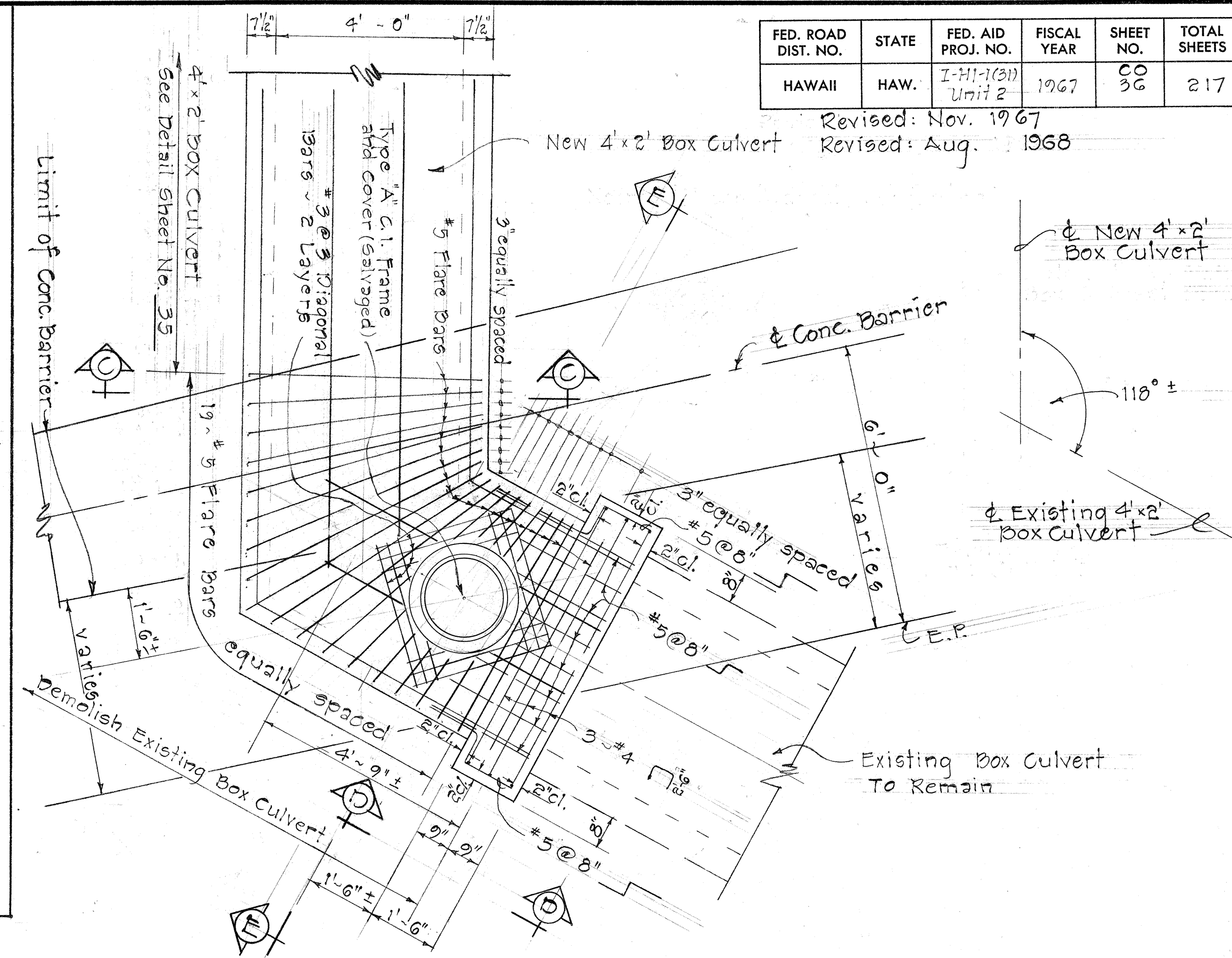
Revised: Nov. 1967
Revised: Aug. 1968



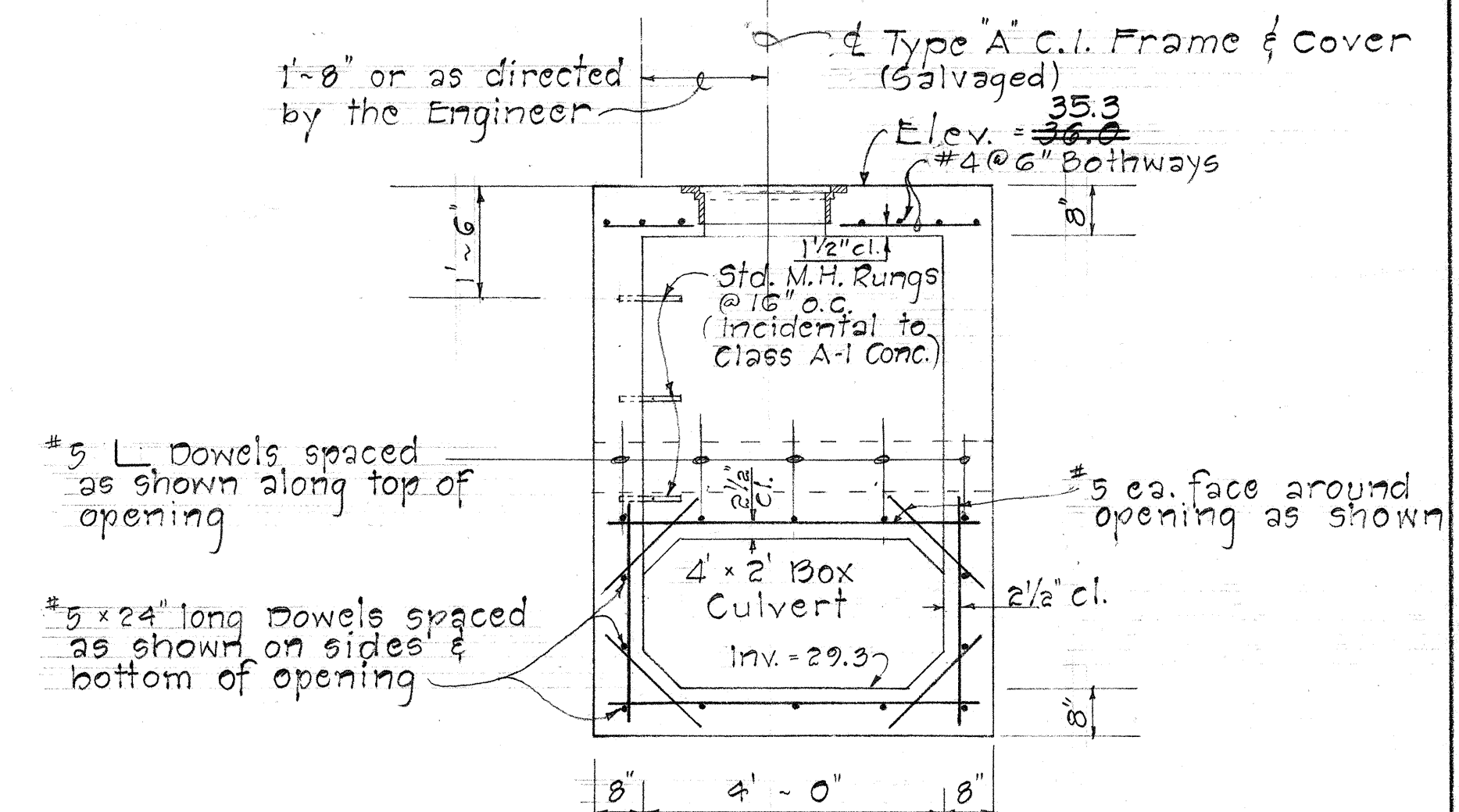
PLAN
Scale: 1/2" = 1'-0"



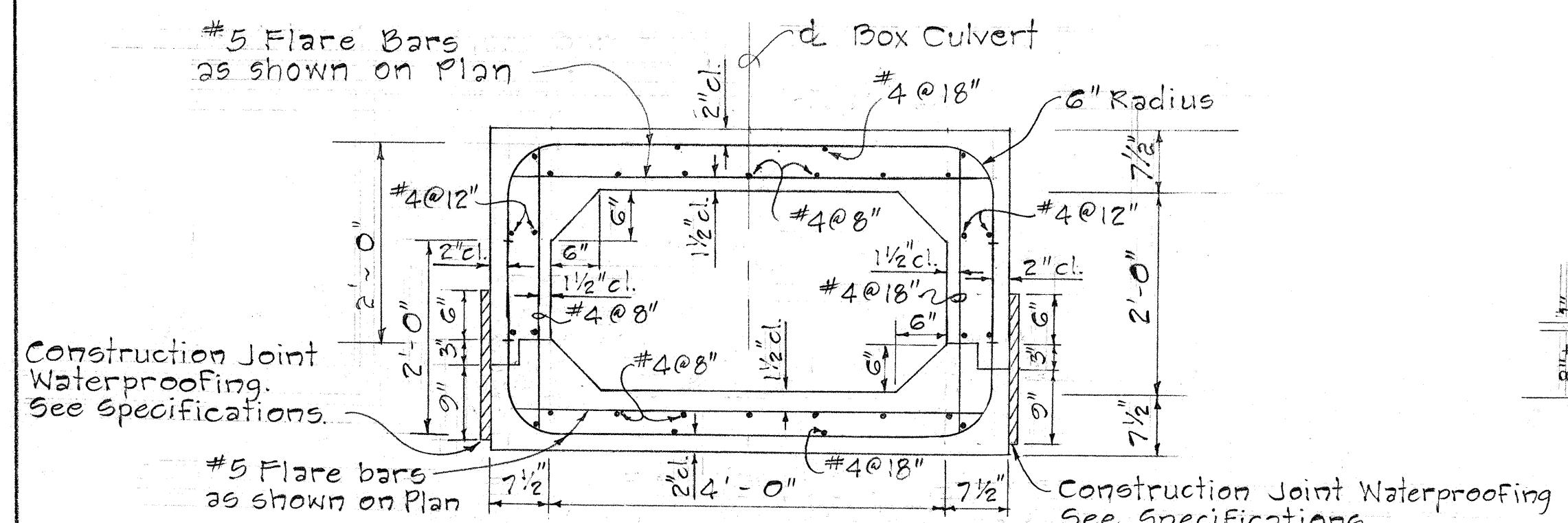
SECTION "B-B"
Scale: 1/2" = 1'-0"



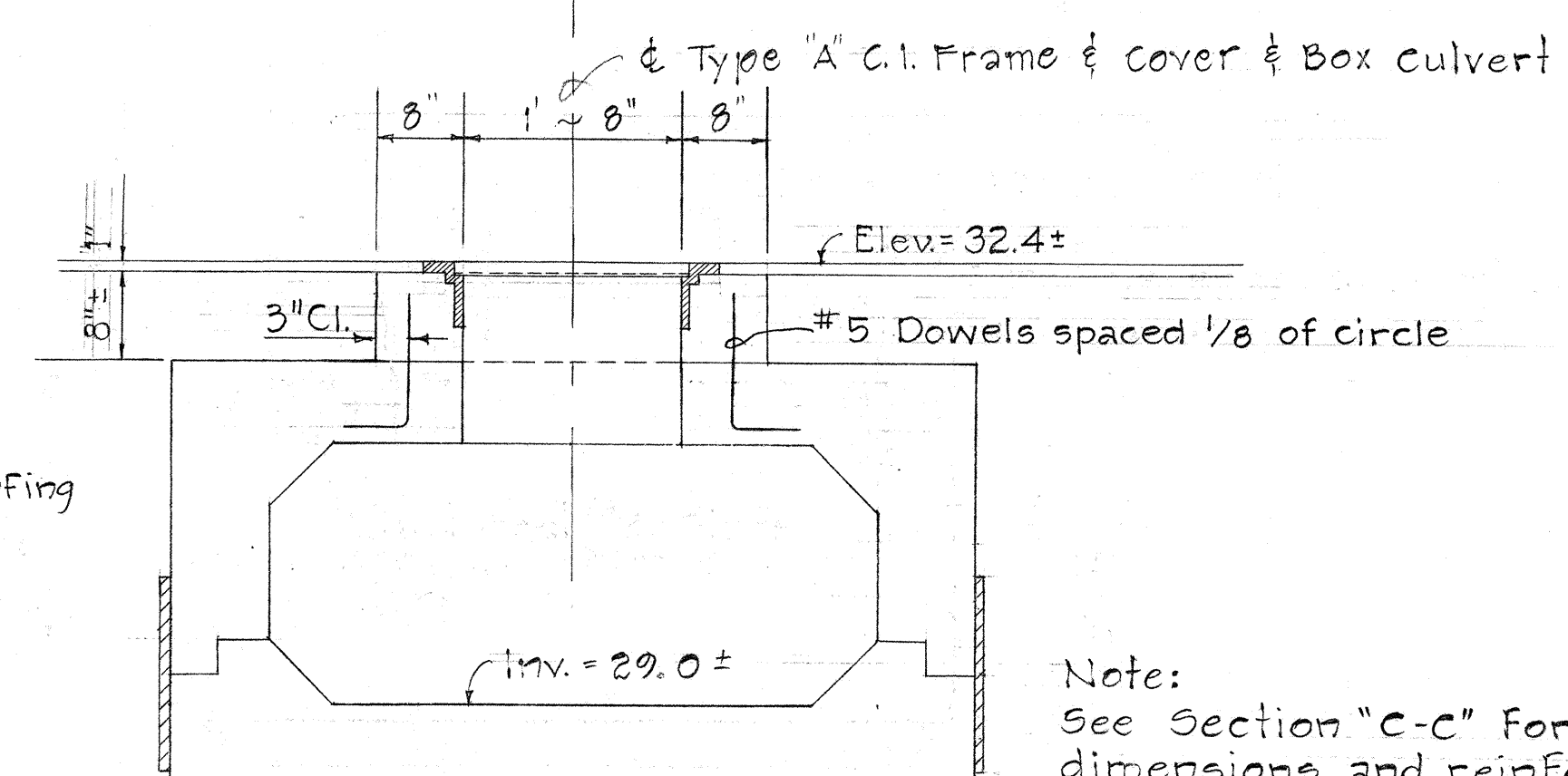
PLAN
Scale: 1/2" = 1'-0"



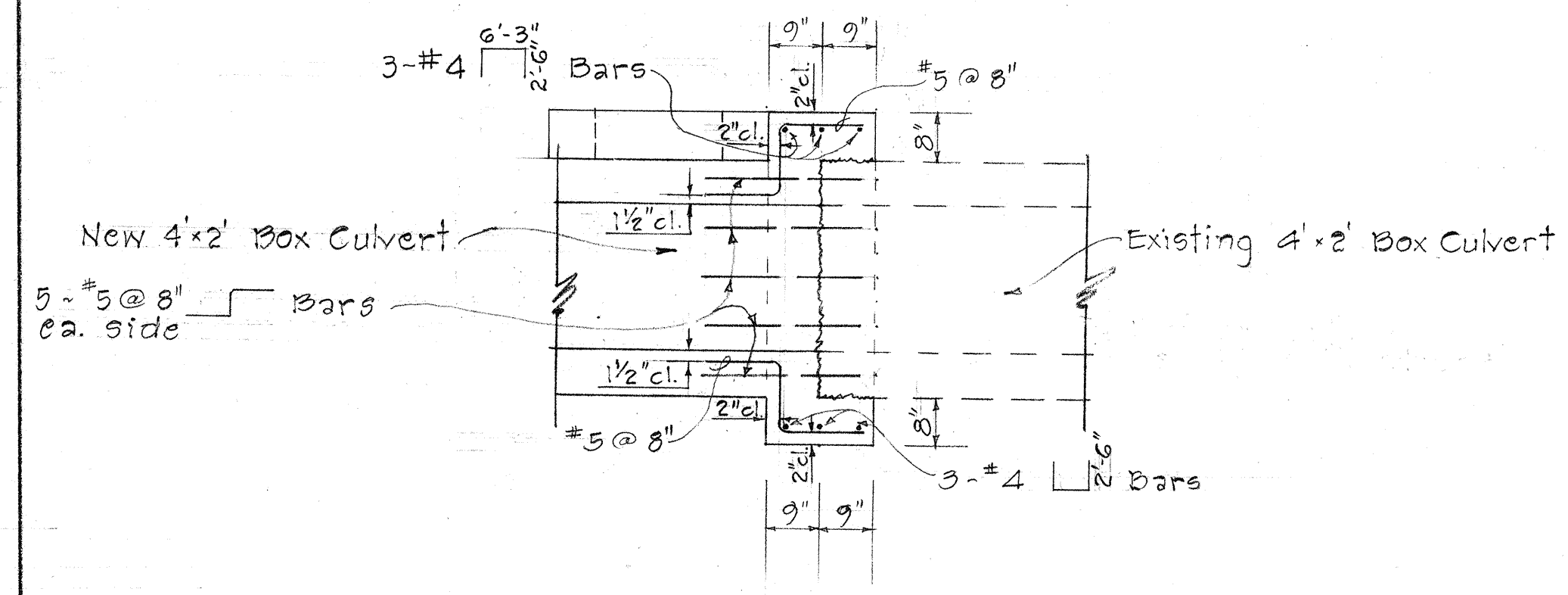
SECTION "A-A"
Scale: 1/2" = 1'-0"



SECTION "C-C"
Scale: 3/4" = 1'-0"



SECTION "E-E"
Scale: 3/4" = 1'-0"



SECTION "D-D"
Scale: 1/2" = 1'-0"

DETAIL OF TYPE "G" S.D.M.H. AT ROAD "J" STA. 66+92 ±

DETAIL OF MANHOLE OPENING AND CONNECTION FOR 4' x 2' BOX CULVERT AT STA. 228+96 ±

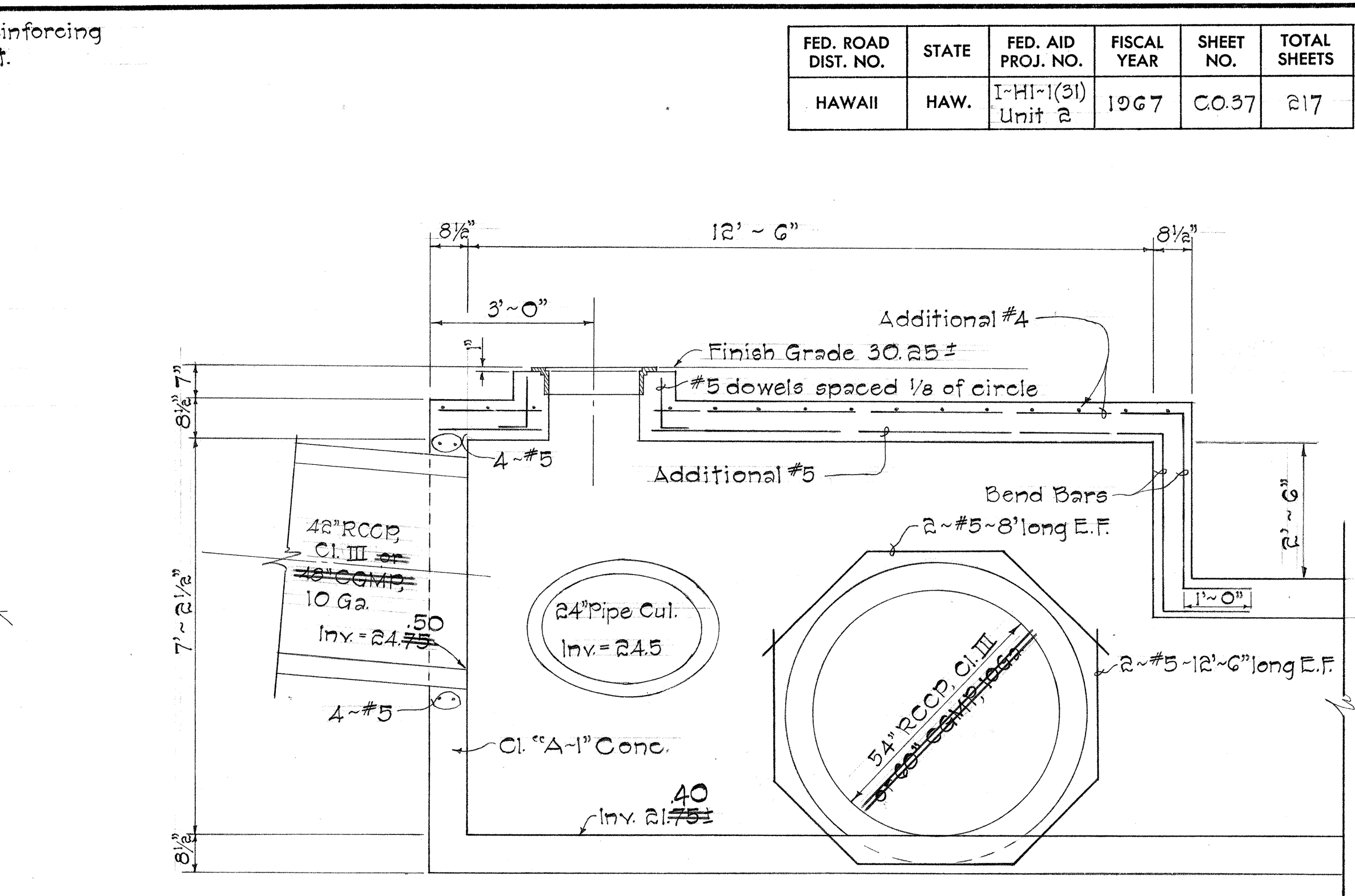
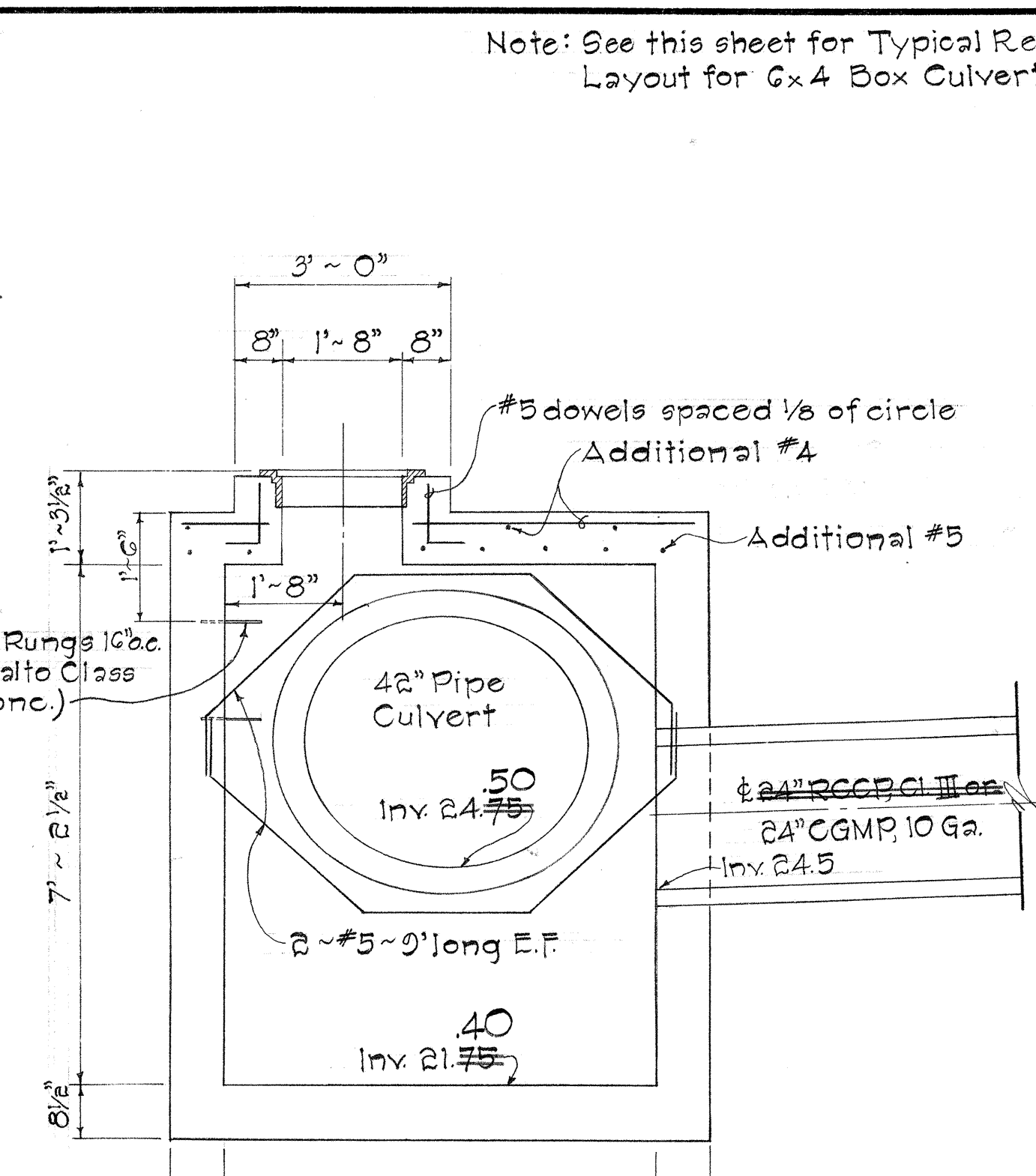
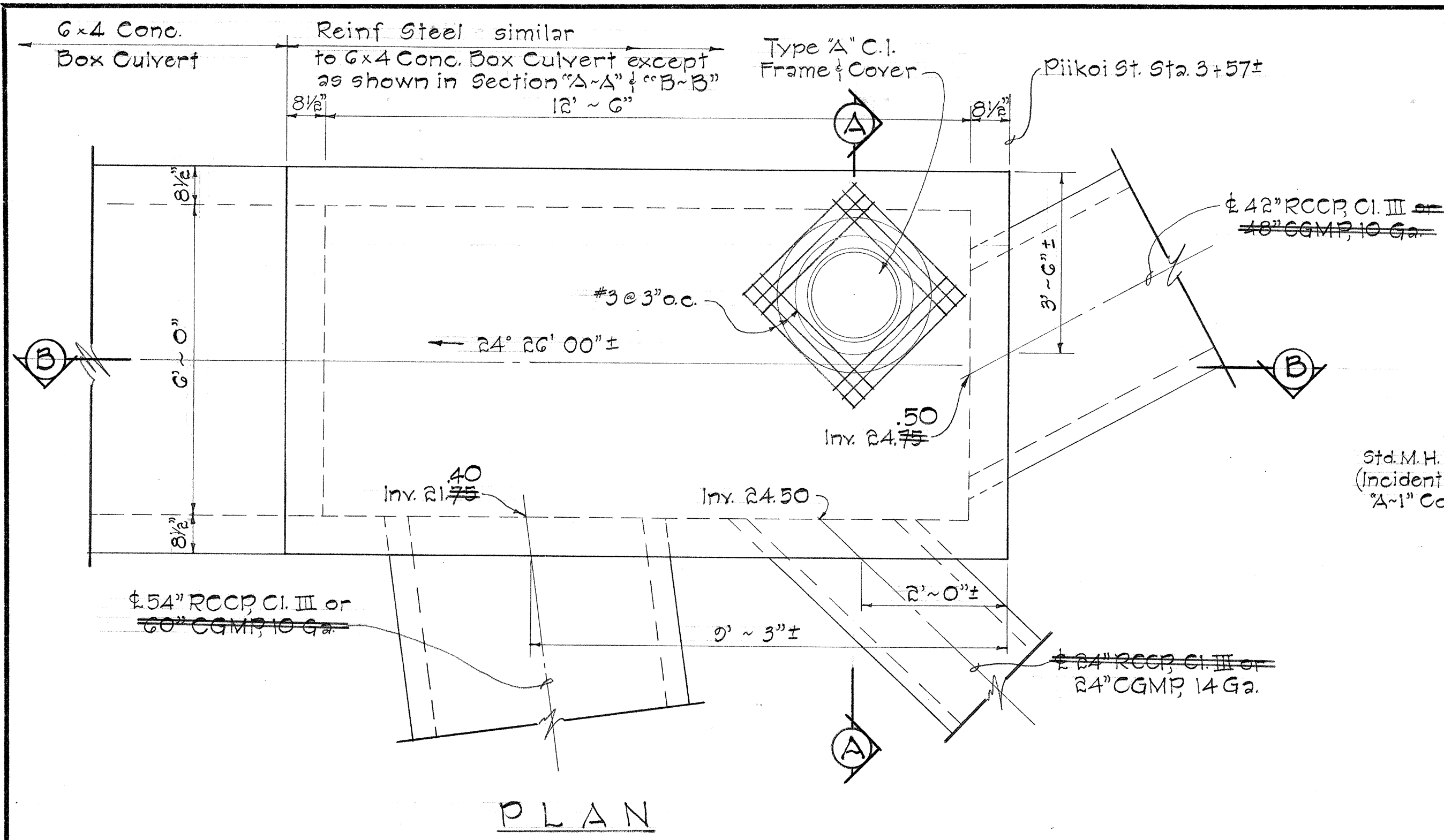
Note:
See Section "C-C" For dimensions and reinforcing

THIS SHEET SUPERSEDES SHEET NO. 36

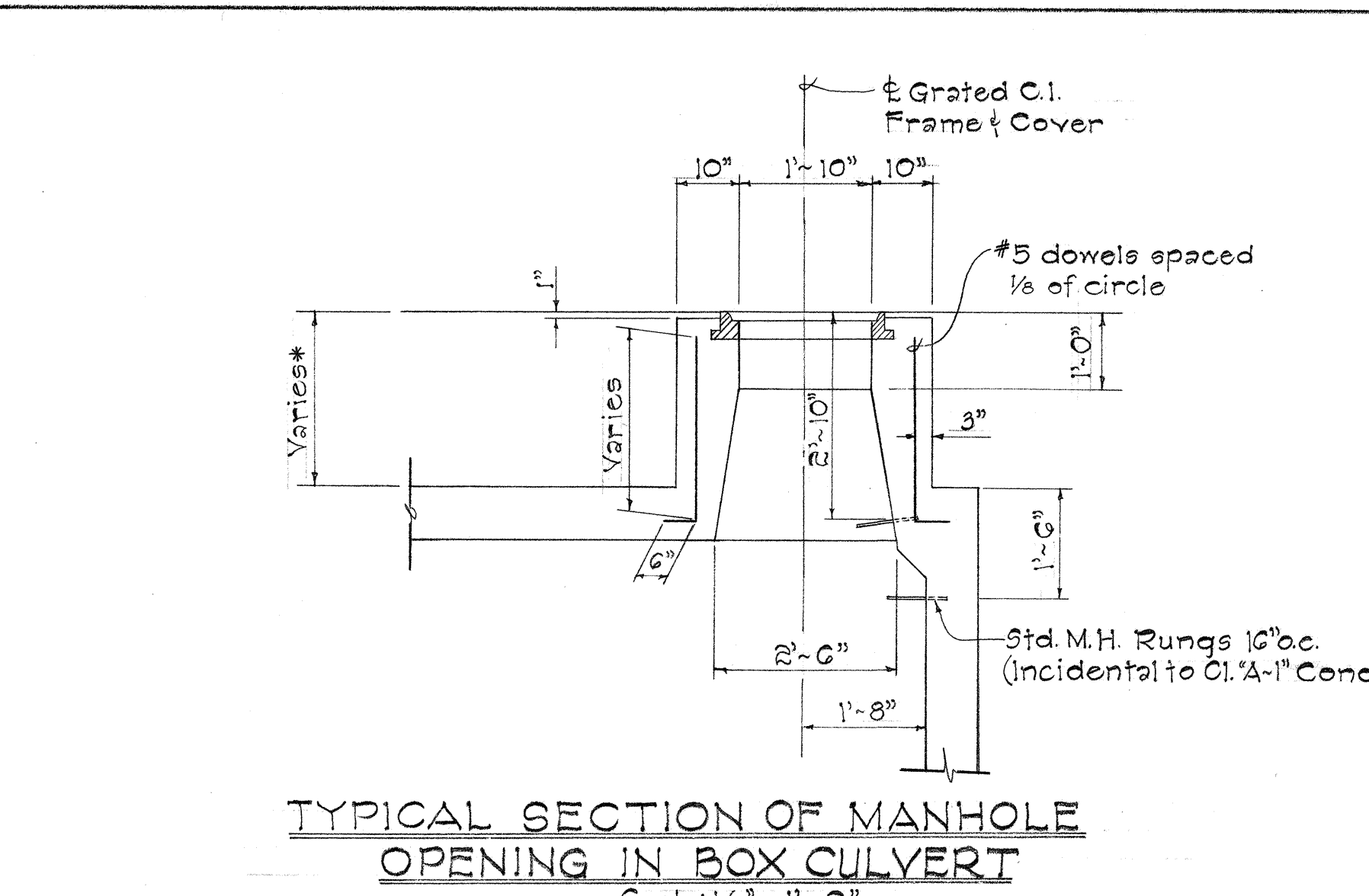
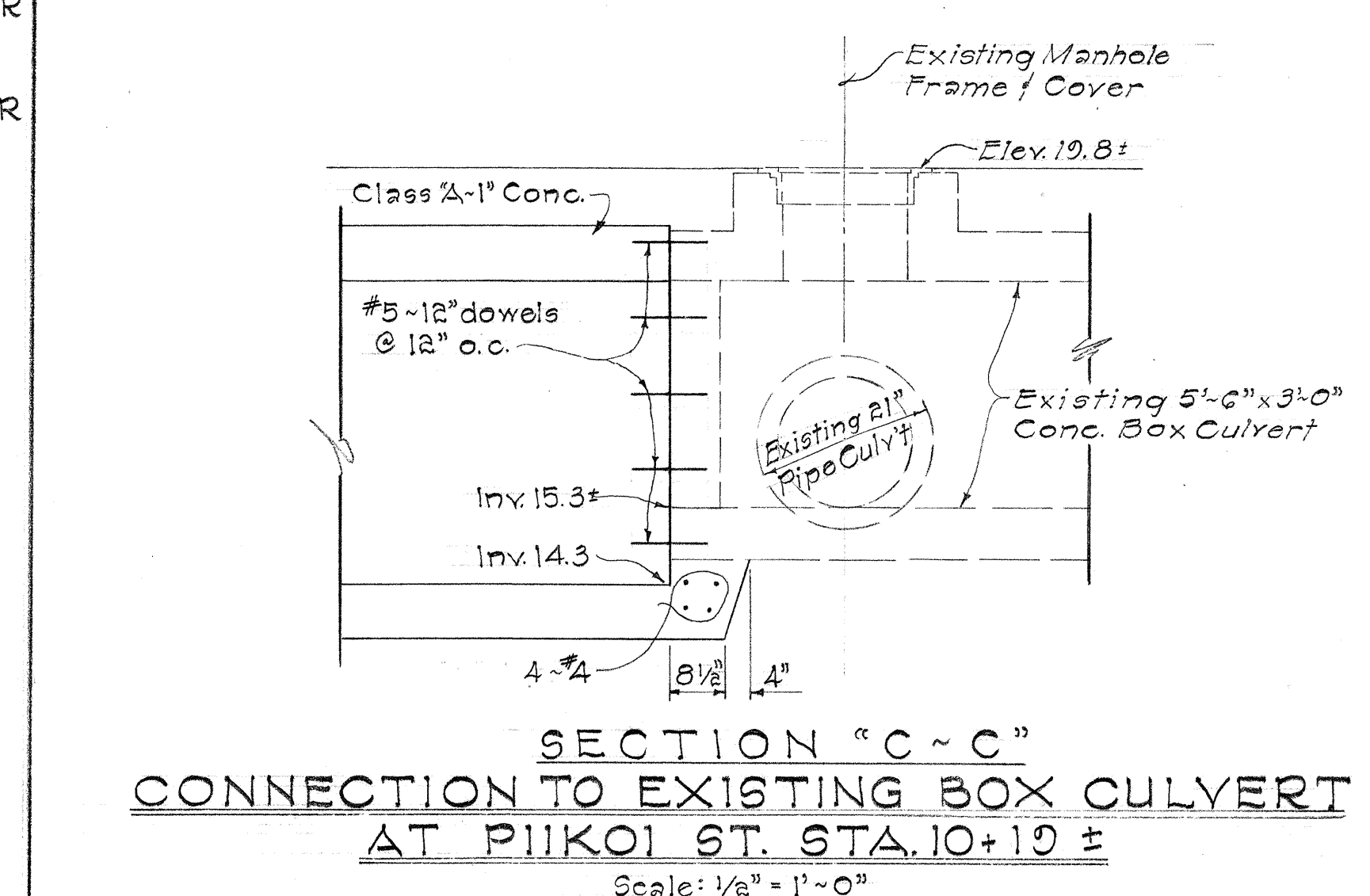
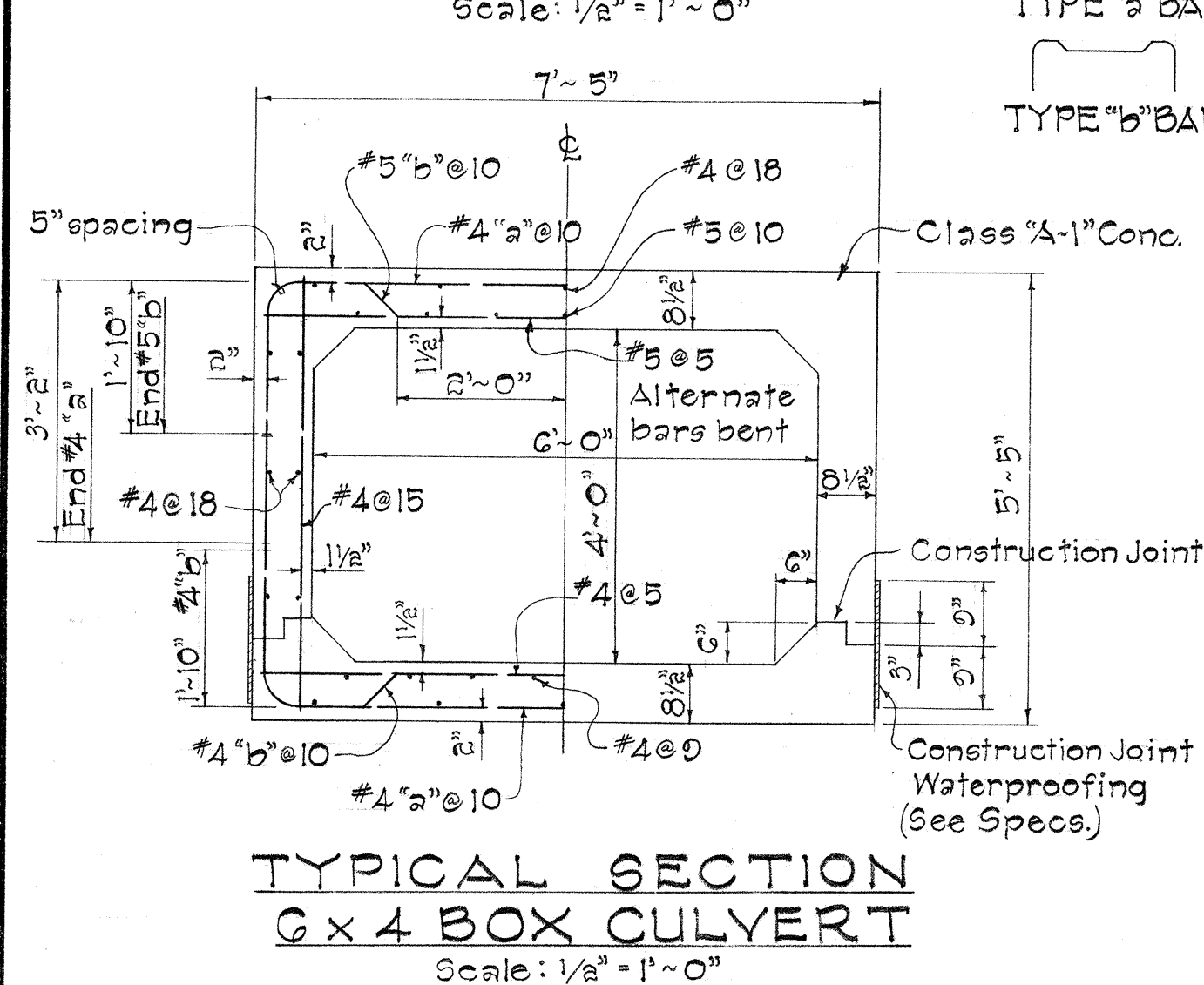
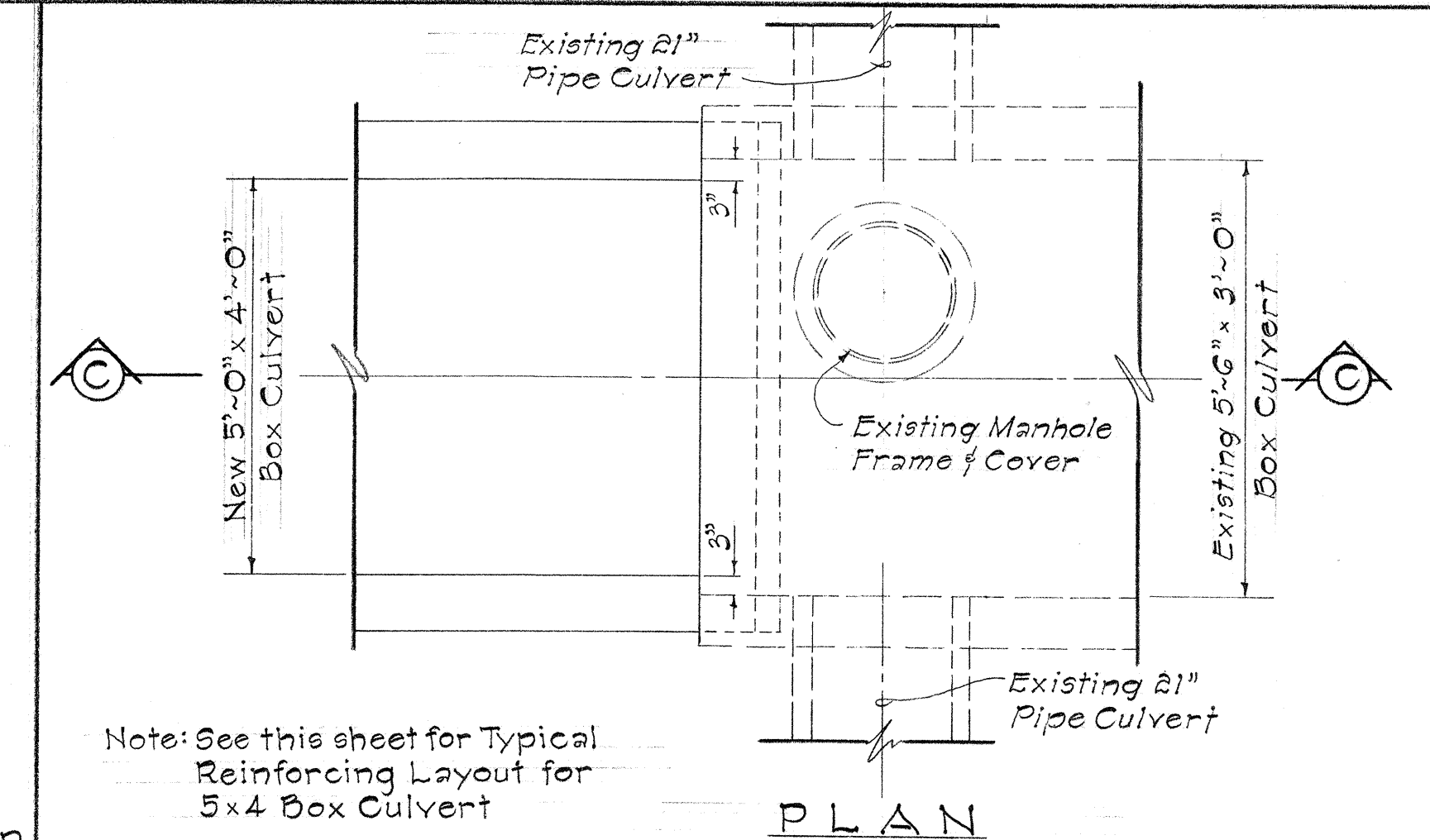
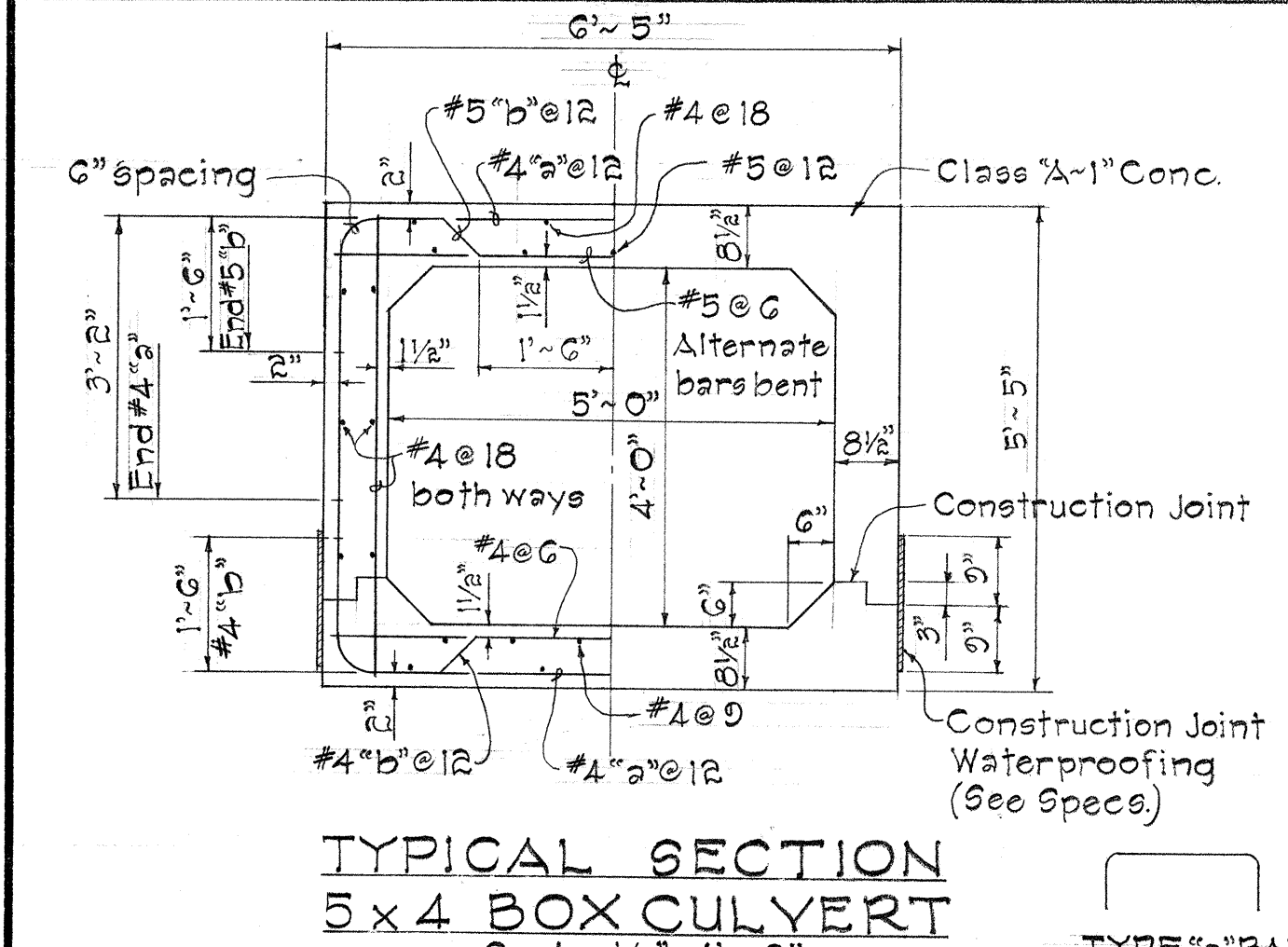
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
TYPE "G" S.D.M.H., M.H. OPENING AND CONNECTION FOR 4' x 2' BOX CULVERT
INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2
Scale: As shown Date: April, 1967
SHEET No. 60 OF 17 SHEETS

C.O. 33

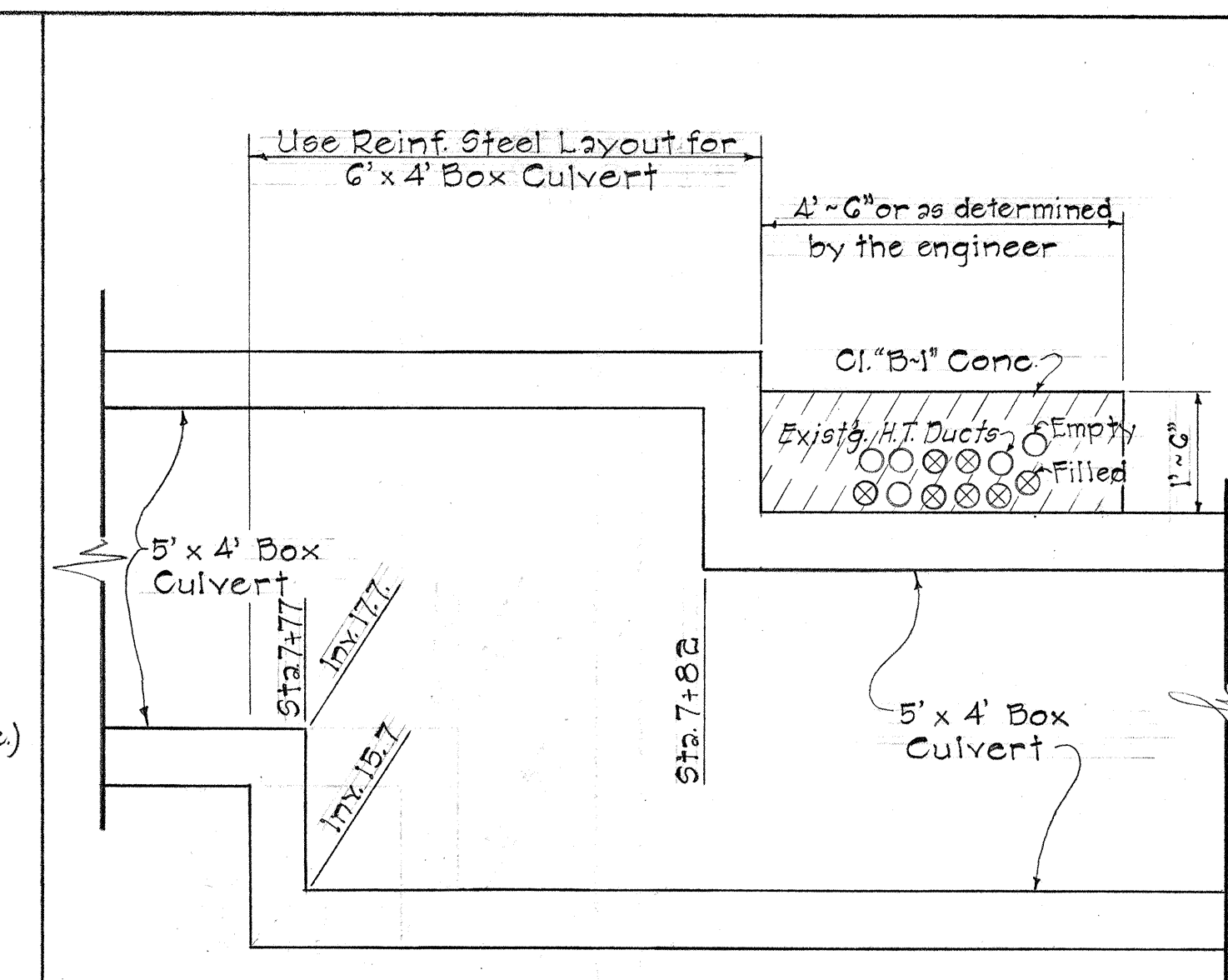
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	CO.37	217



DETAIL OF CONNECTION AT PIKIOI ST. STA. 3+57±
Scale: 1/2" = 1'-0"



- * 1. S.D.M.H. Opening @ Sta. 5+35 Height is approximately 2'-6" 1st Manhole Rung shall be located 2'-10" from the surface as shown.
- * 2. S.D.M.H. Opening @ Sta. 7+35 Height is approximately 1'-0" 1st Manhole Rung shall be located 1'-6" from the top slab as shown.
- * 3. S.D.M.H. Opening shall be located at the sidewalk side of the box culvert.



SECTION OF BOX CULVERT BETWEEN STA. 7+77± AND STA. 7+82±
Scale: 1/2" = 1'-0"

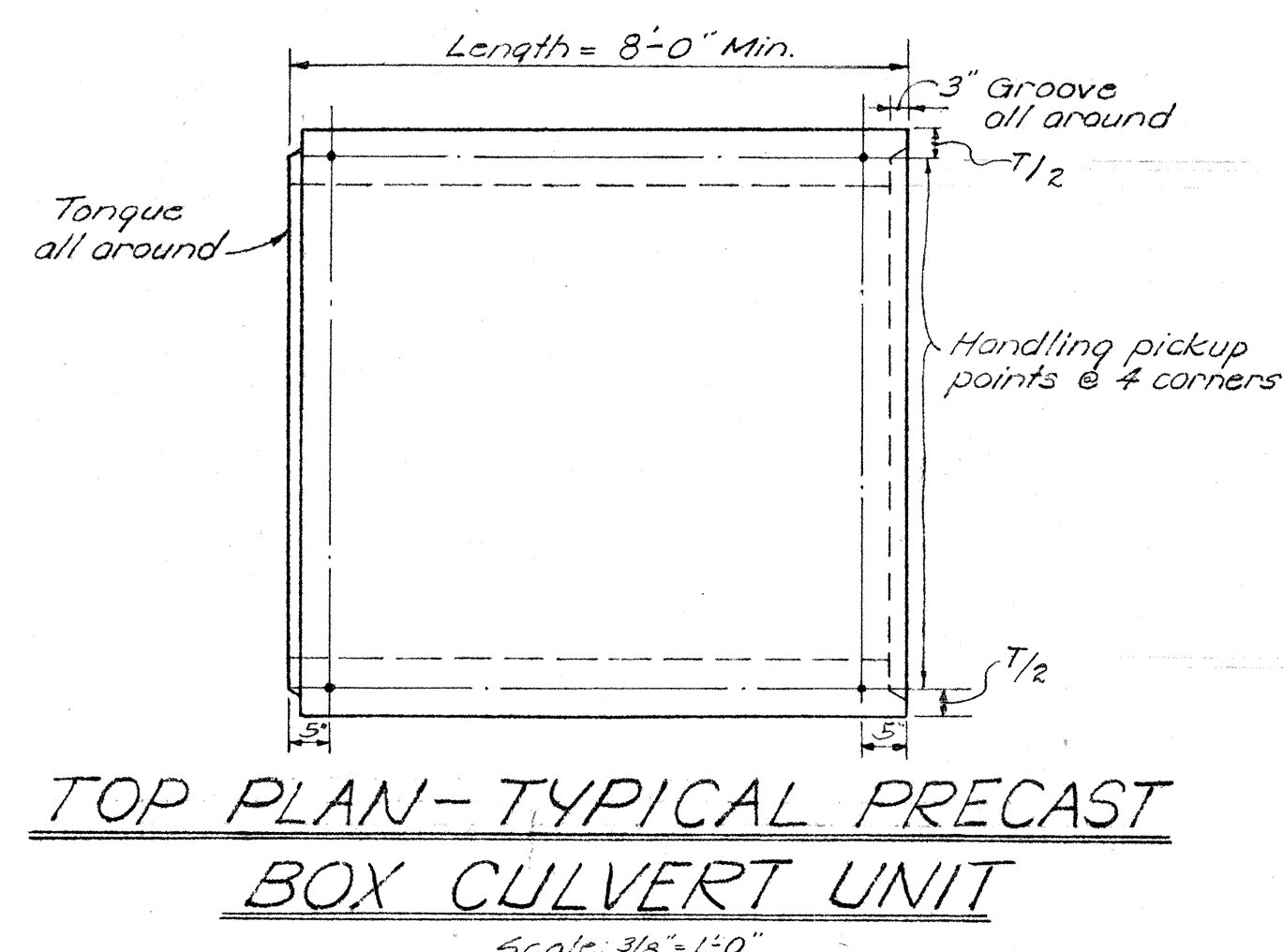
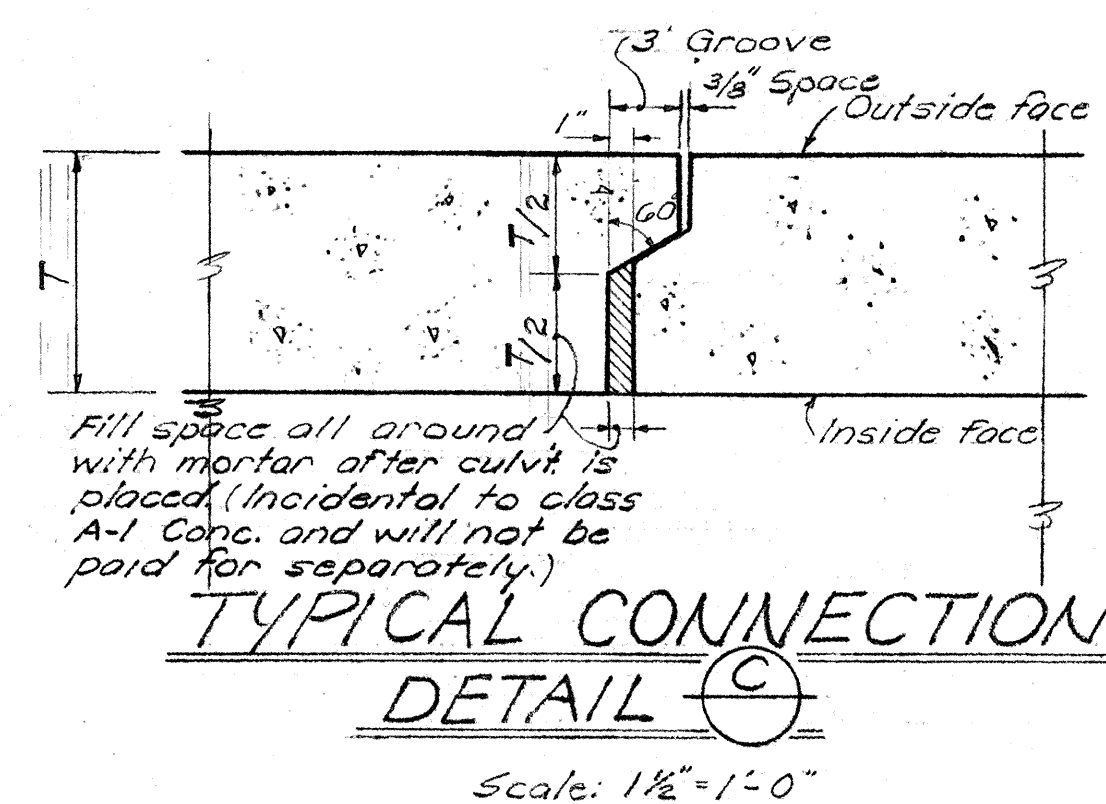
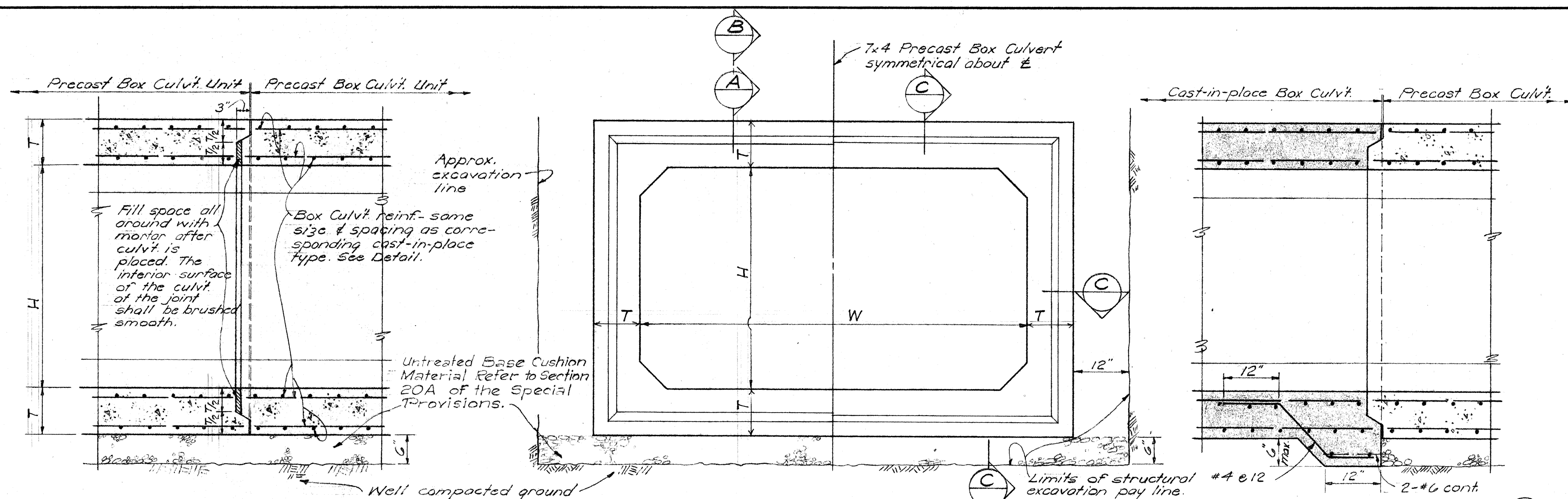
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
CONNECTIONS TO BOX CULVERT ON PIKIOI ST.
INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2
Scale: 1/2" = 1'-0" Date: April 1968
SHEET No. OF SHEETS

THIS SHEET SUPERSEDES AND REPLACES SHEET NO. 37±38

(SHEET NO. 38 IS DELETED)

CO 37

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31)	1967	57	59



- NOTE:**
1. Contractor to determine maximum length and pickup points and submit 4 sets of shop drawings for approval by the Engineer.
 2. Box Culvert dimensions, class of concrete and reinforcing steel arrangements shall be identical to the cast-in-place sections.

TYPICAL PRECAST BOX CULVERT CONNECTION DETAILS

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

PRE-CAST BOX CULVERT

INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31), Unit 2

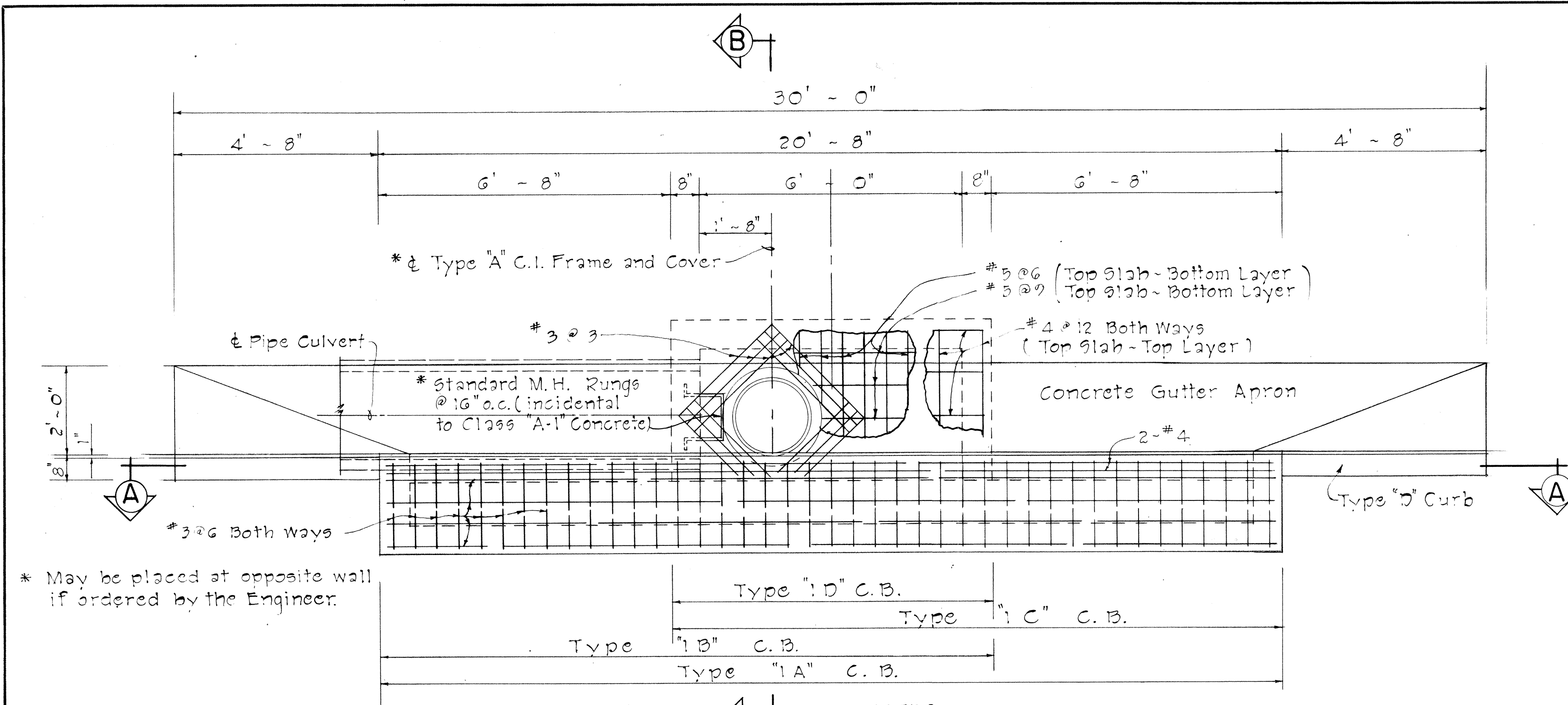
Scale: As Shown Date: Dec., 1967

SHEET No. OF SHEETS

THIS SHEET IS A SUPPLEMENT TO THE CONTRACT PLANS

C O 3 7 S

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	39	217

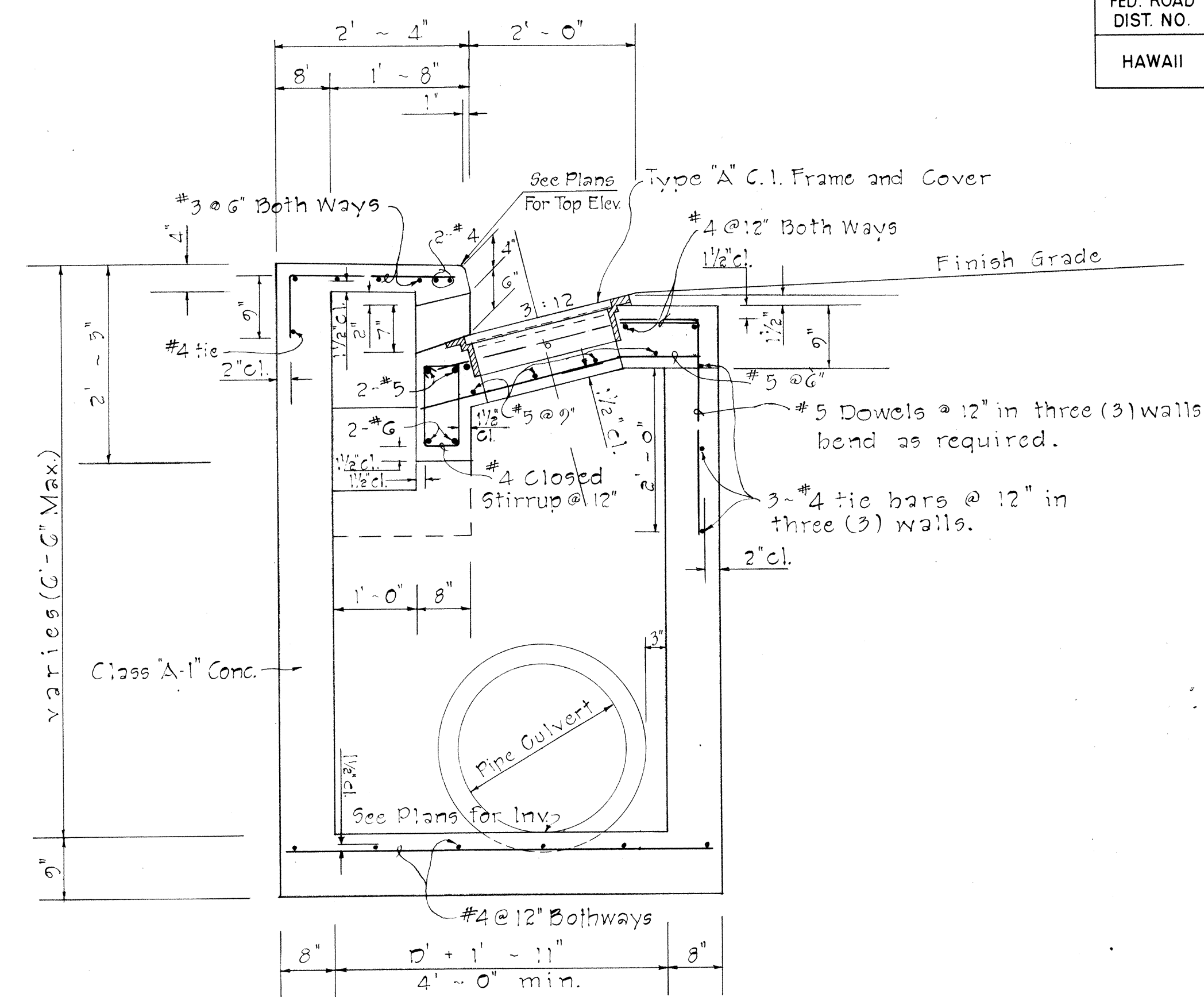


NOTES:

1. Pipe culvert shall enter and leave C.B. from any position and in the direction indicated by the plans or ordered by the Engineer.
2. D' shall be the maximum outside dimension of the pipe culvert at the C.B. wall.

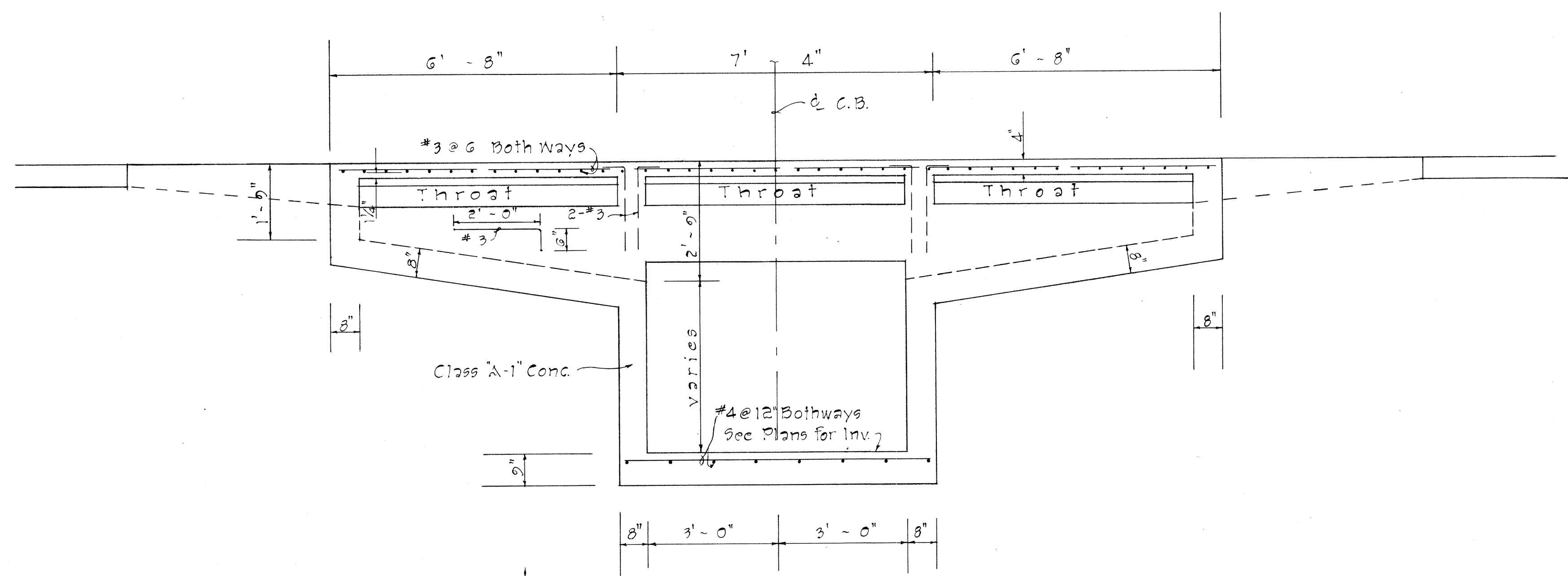
PLAN

Scale: $1/2'' = 1' - 0''$



SECTION "B-B"

Scale: $3/4" = 1' - 0"$

SECTION "A-A"

Scale: $1/2'' = 1' - 0''$

DETAILS OF TYPE "IA", "IB", "IC" AND "ID" CATCH BASIN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE STRUCTURE DETAILS
OF "IA", "IB", "IC" AND "ID" C.B.

INTERSTATE ROUTE H-1
(Victoria St. to Keezumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2

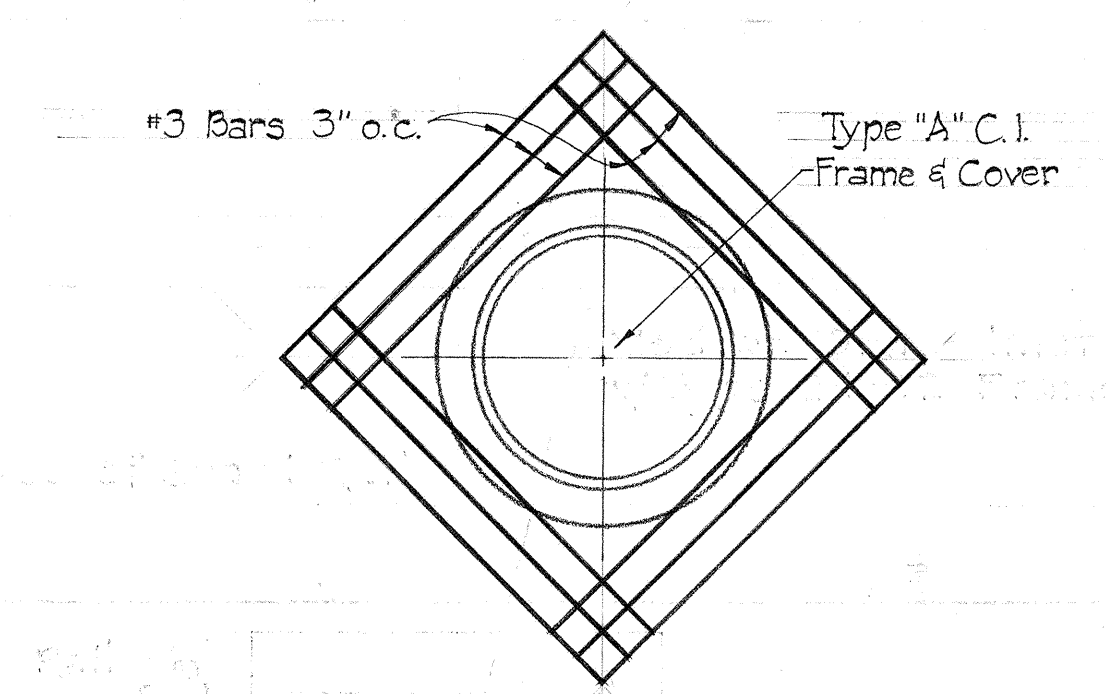
Scale: As Shown Date: April, 1967

SHEET No. 0-12 OF 17 SHEETS

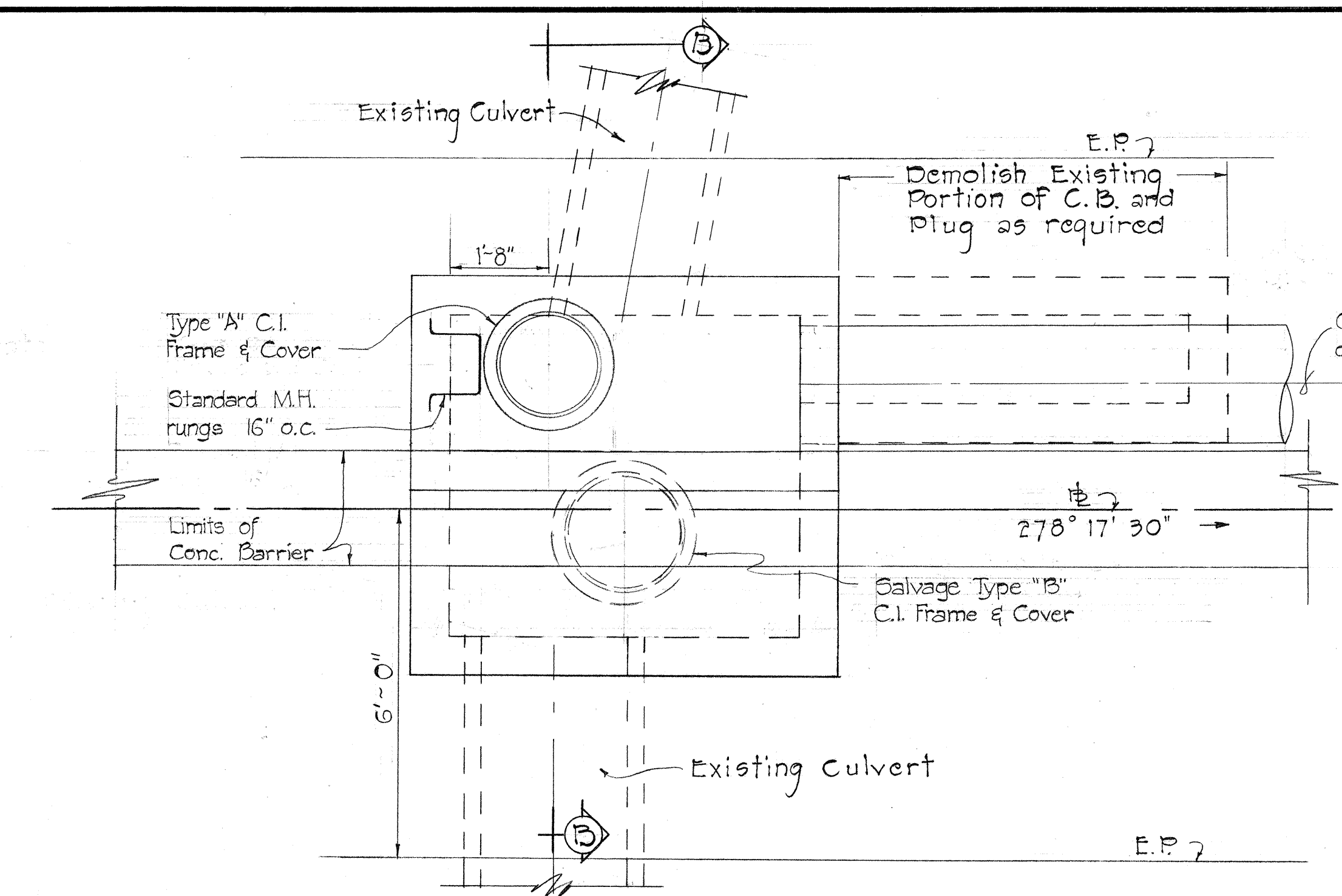
33

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1968	CO395(1)	

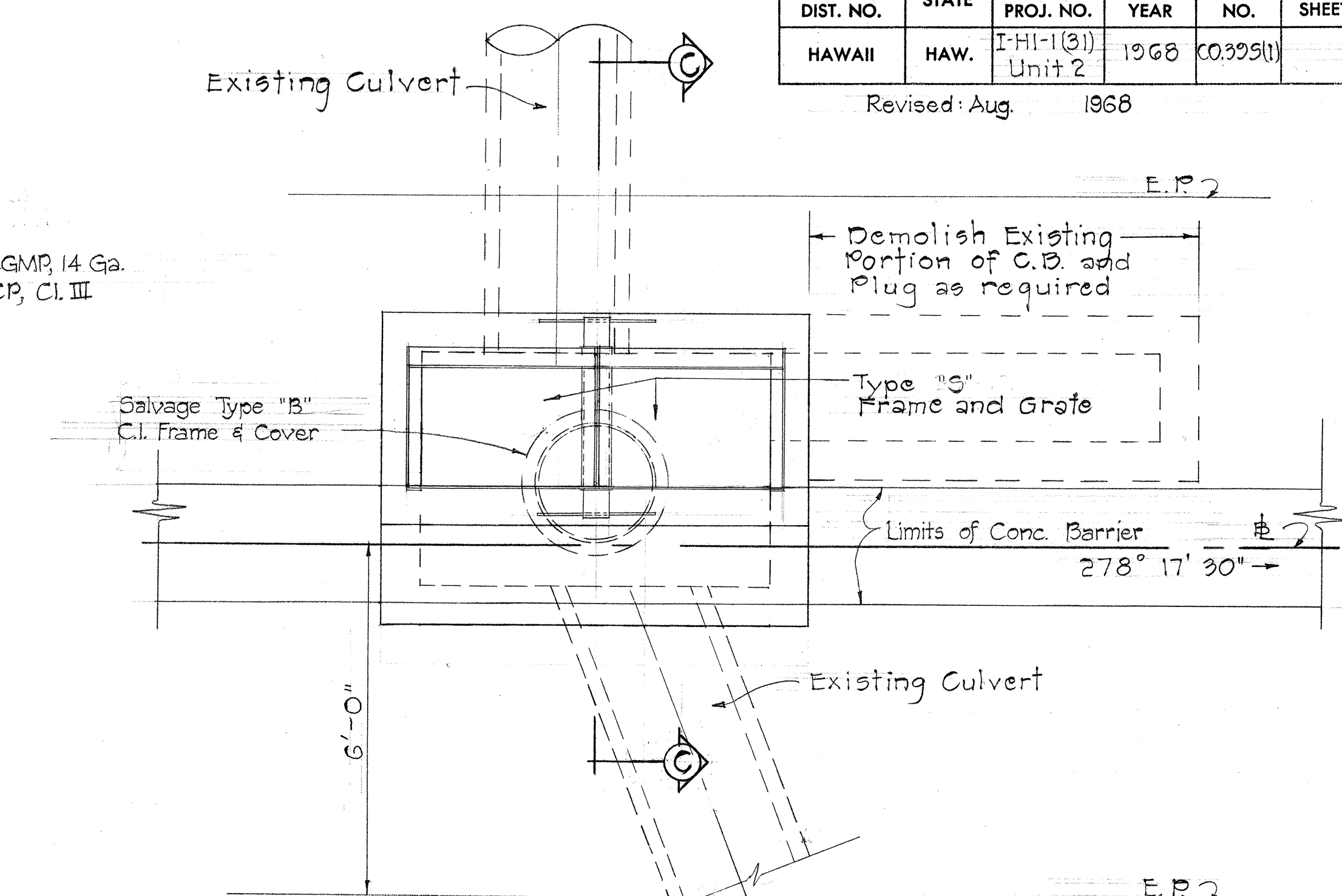
Revised: Aug. 1968



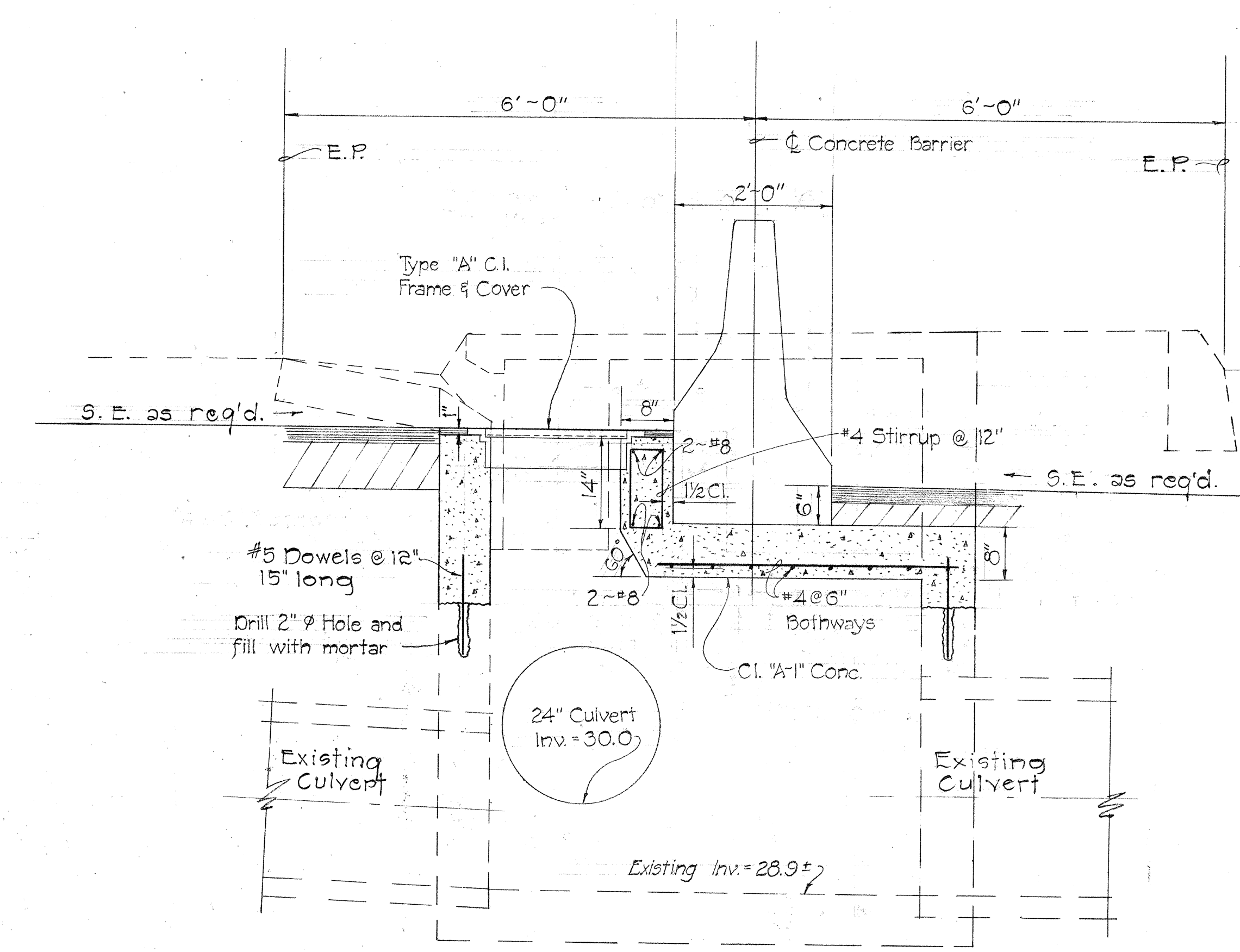
ADDITIONAL REINFORCEMENT AROUND SMH OPENING
Scale: 3/4" = 1'-0"



PLAN
Scale: 1/2" = 1'-0"

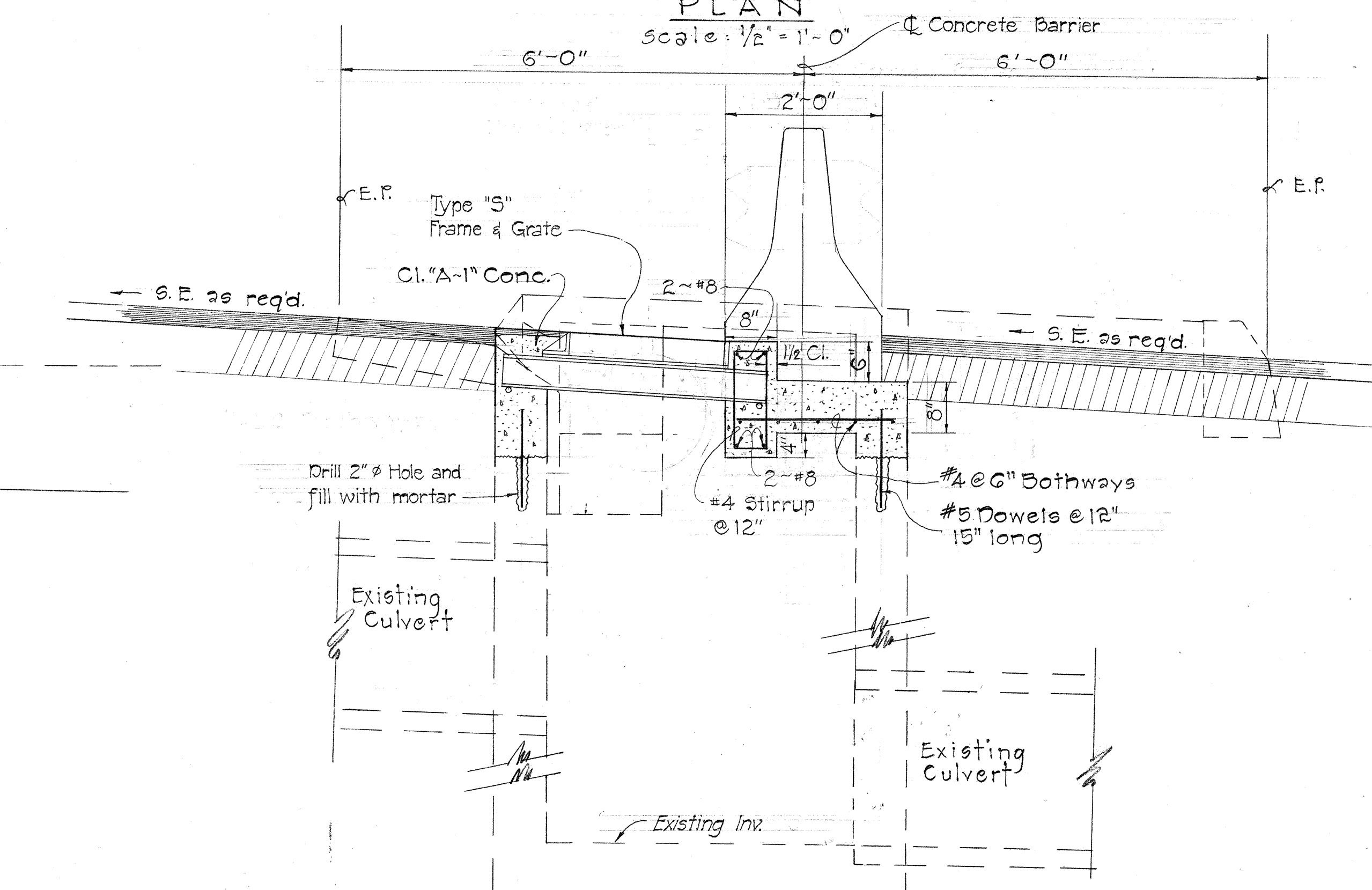


PLAN
Scale: 1/2" = 1'-0"



SECTION "B-B"
Scale: 3/4" = 1'-0"

MODIFICATION TO EXISTING C.B. @ STA. 230+10 ±



SECTION "C-C"
Scale: 3/4" = 1'-0"

MODIFICATION TO EXISTING C.B. @ STA. 234+25

NOTE: Demolishing and removing a portion or the entire existing structure shall not be paid for separately, but shall be considered incidental to the various contract items.

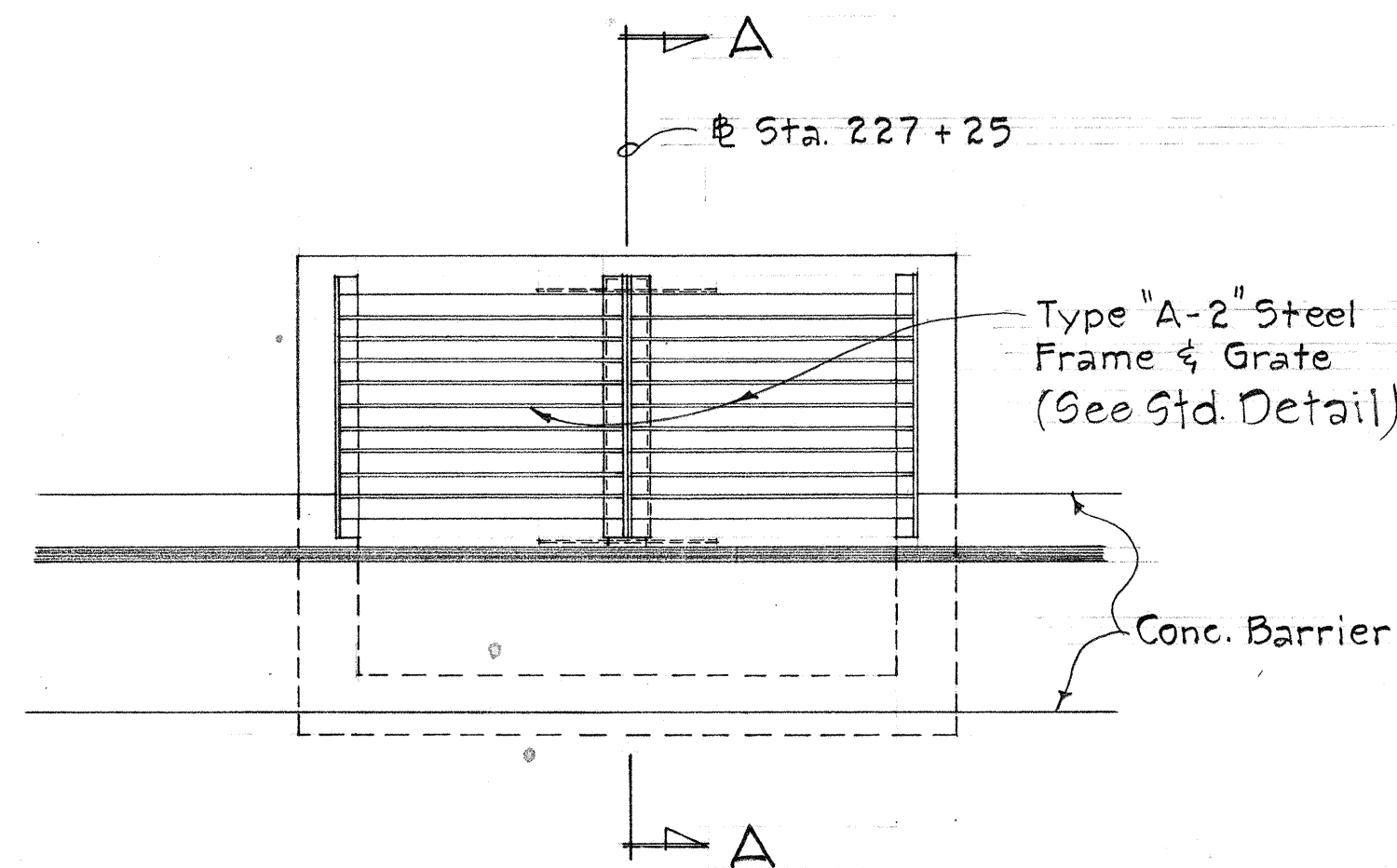
THIS SHEET IS A SUPPLEMENT TO THE CONTRACT PLANS.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
MODIFICATION TO EXISTING
C.B. @ STA. 230+10 ± & 234+25
INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2
Scale: As Shown Date: Dec. 1967
SHEET No. OF SHEETS

CO395(1)

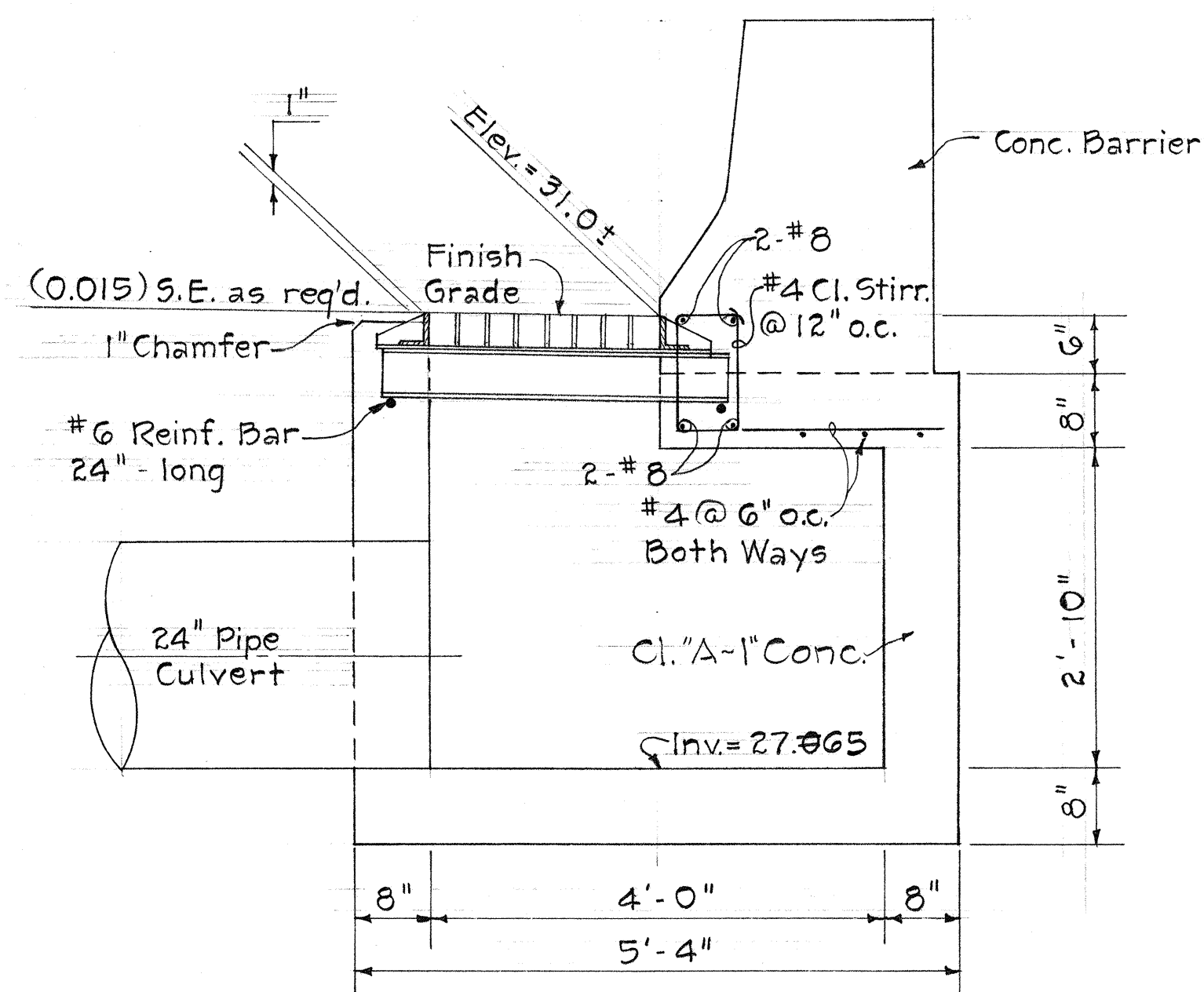
DESIGNED BY	DATE
CHECKED BY	
NOTED BY	
APPROVED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967		



PLAN

Scale: 1/2" = 1'-0"



SECTION "A-A"

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

MODIFIED CATCH BASIN
@ STA. 228 + 25

THIS SHEET IS A SUPPLEMENT
TO THE CONTRACT PLANS.

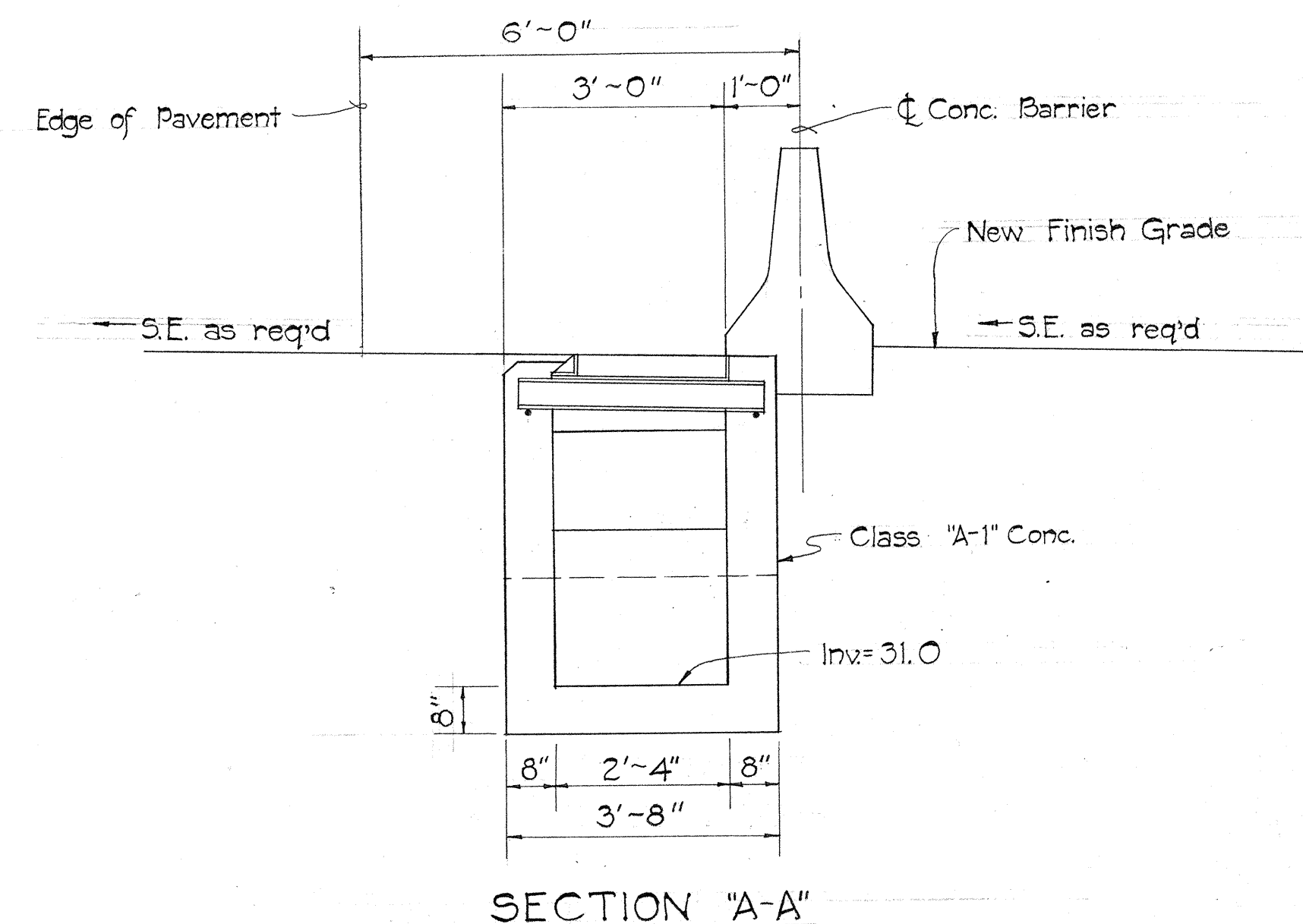
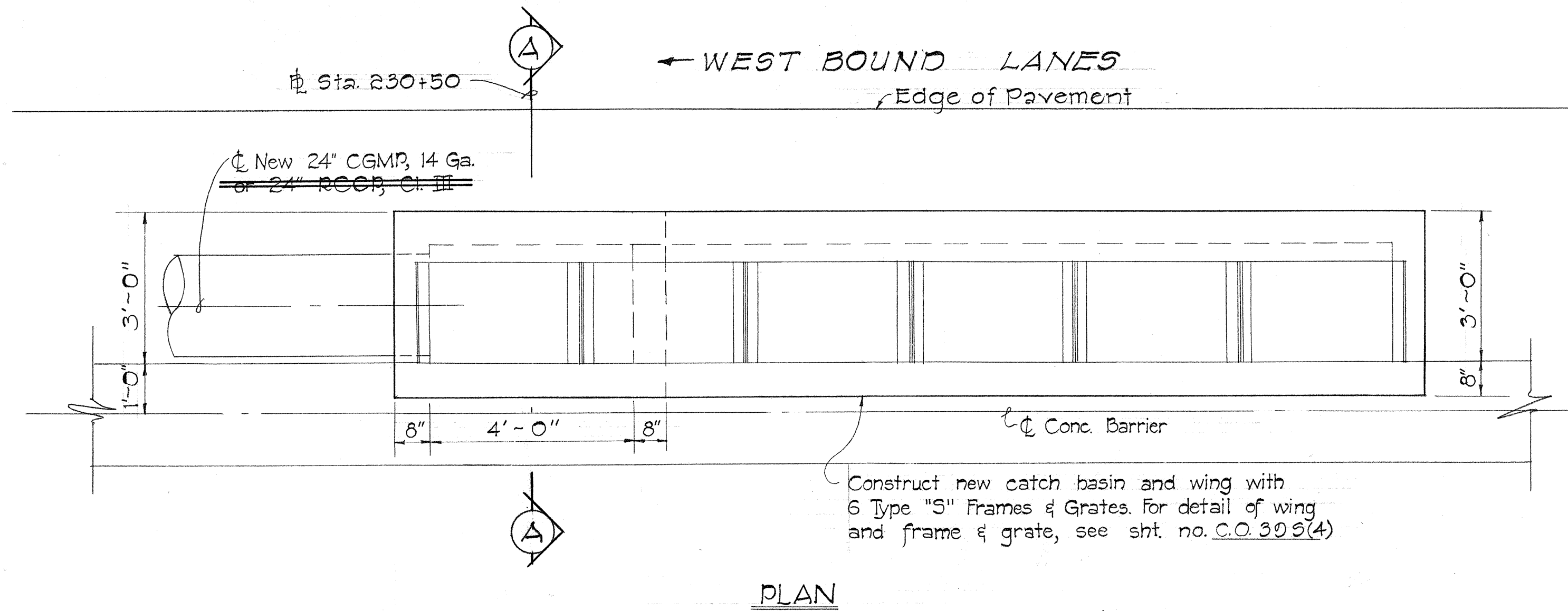
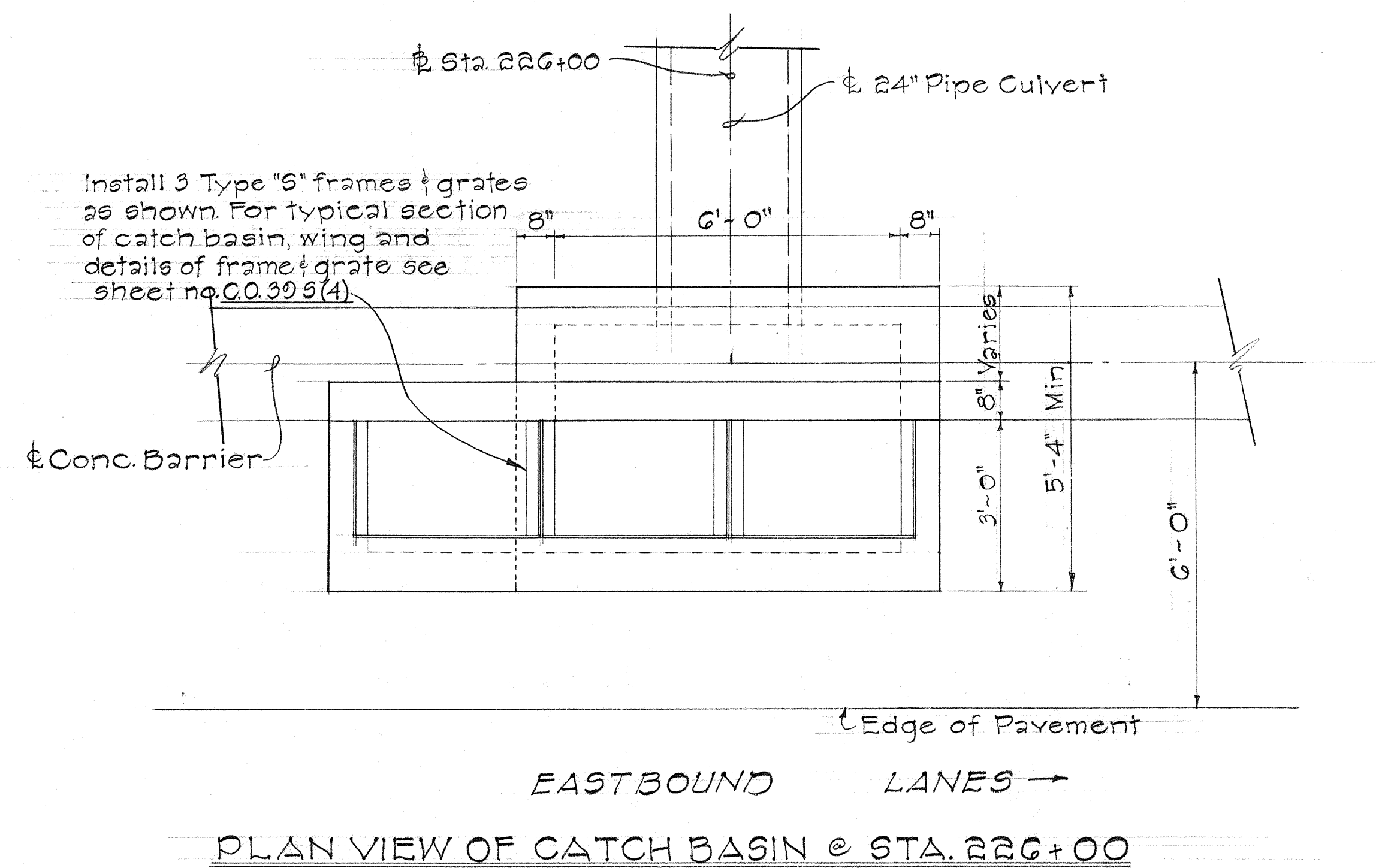
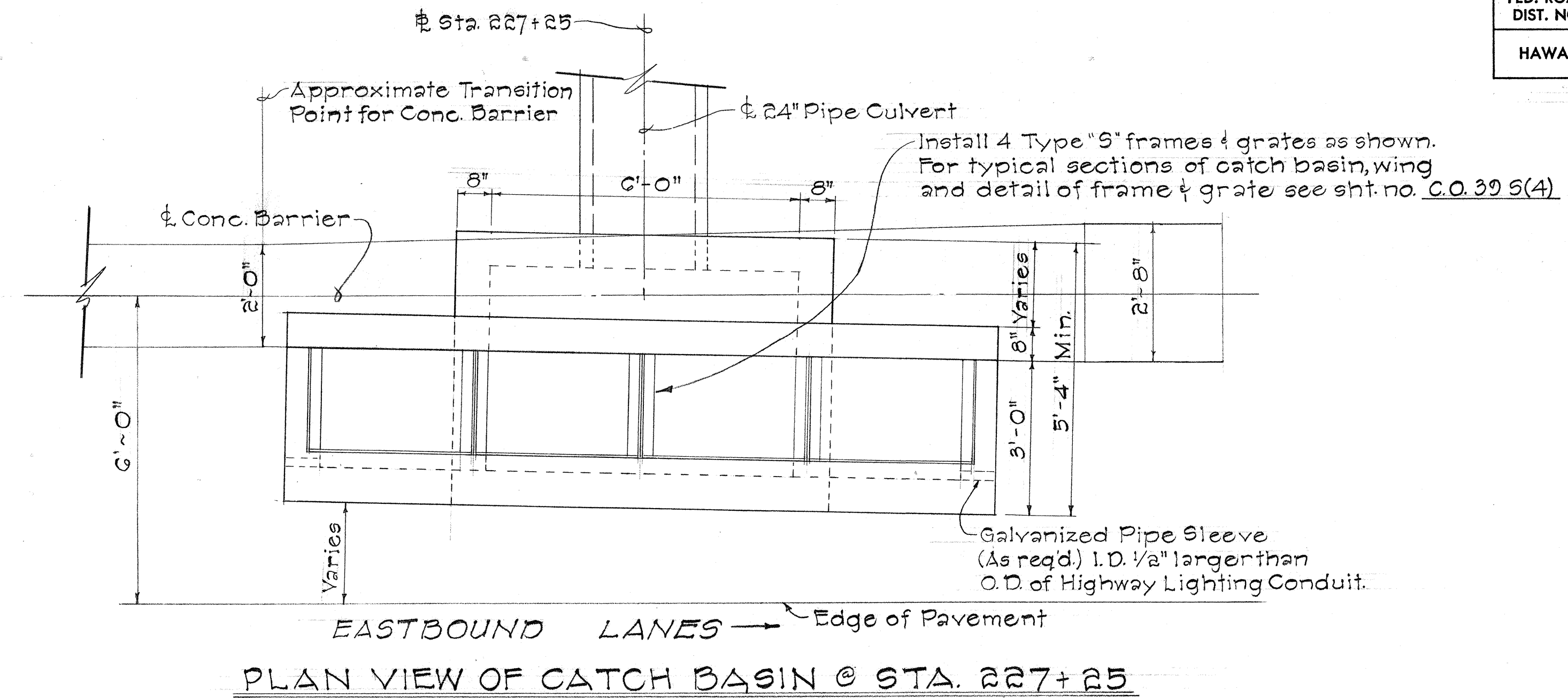
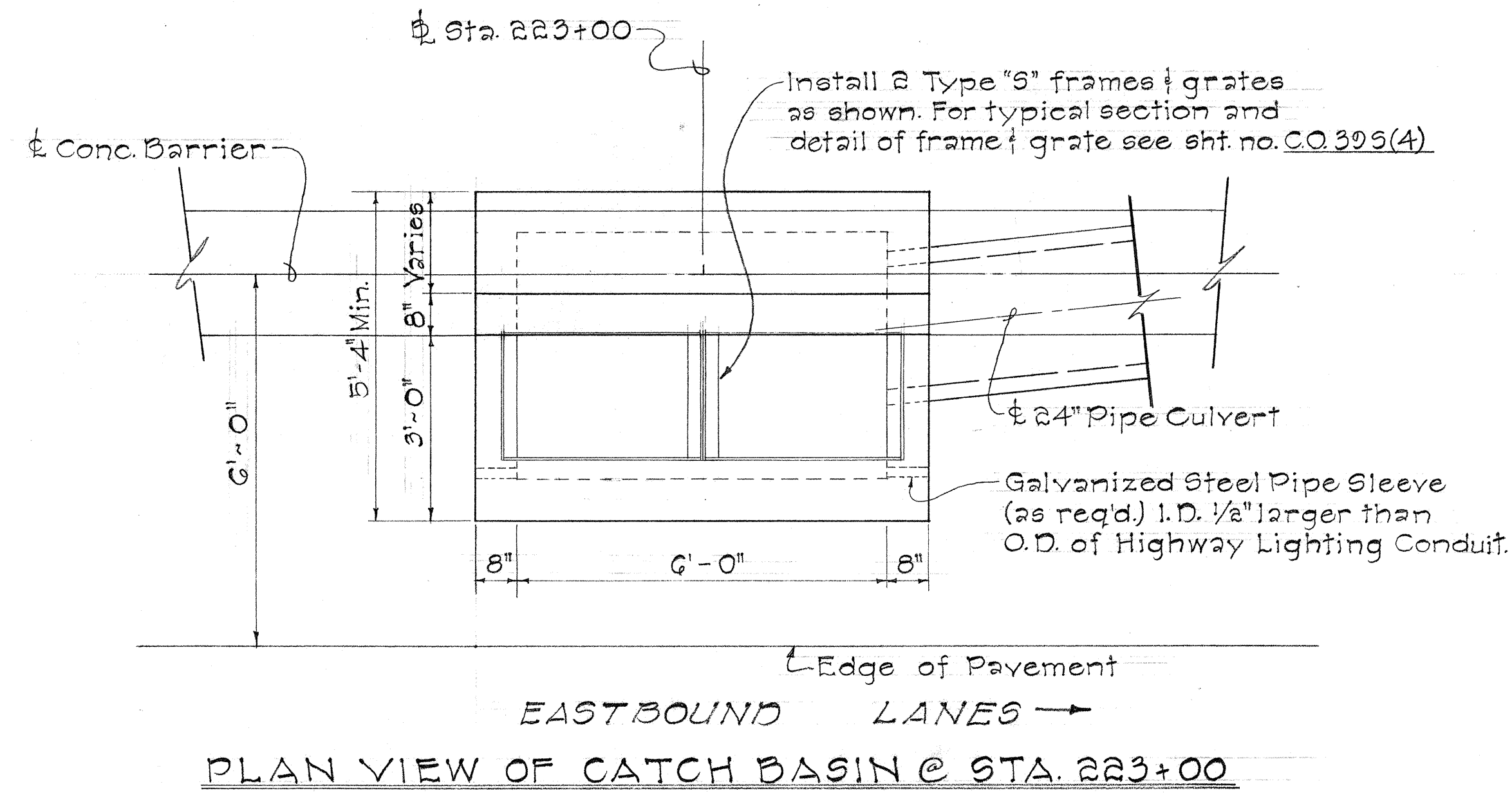
STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
HIGHWAYS DIVISION	
DRAINAGE DETAILS	
MODIFIED C.B. @ STA. 228+25	
INTERSTATE ROUTE H-1	
(Victoria St. to Keeaumoku St.)	
F.A.I. Proj. No. I-HI-1(31), Unit 2	
Scale: As Shown	Date: Dec., 1967

SHEET No. OF SHEETS

C039S(2)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	CO 395(3)	

Revised: Aug. 1968



DETAIL OF NEW CATCH BASIN AT STA. 230+50

THIS SHEET IS A SUPPLEMENT TO THE CONTRACT PLANS.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
MODIFICATIONS OF
CATCH BASINS FOR
CONCRETE BARRIER
INTERSTATE ROUTE H-1
(Victoria St. to Keeaumoku St.)
F.A.I. Proj. No. I-HI-1(31) Unit 2

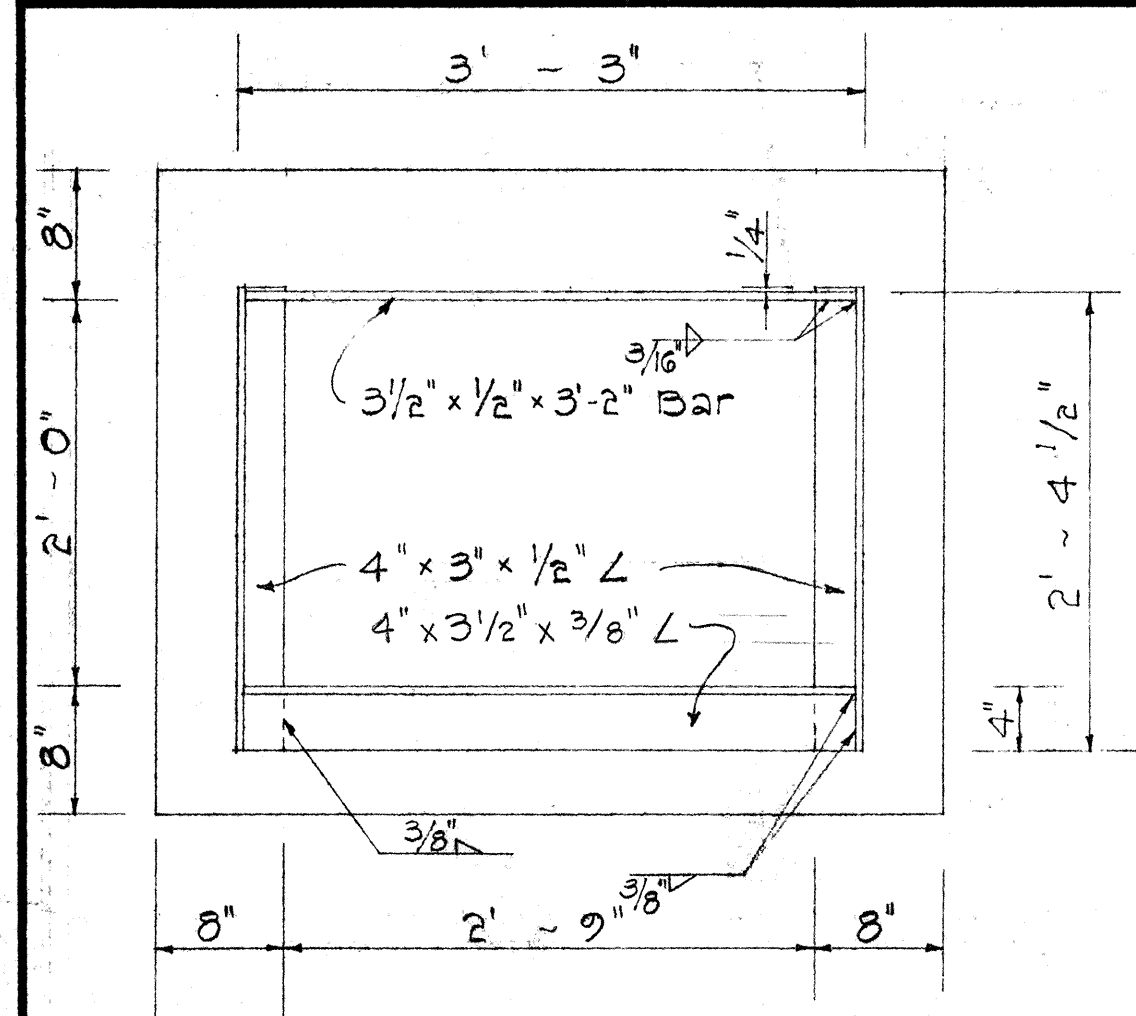
Scale: 1/2"=1'-0" Date: Aug. 1968

SHEET No. OF SHEETS

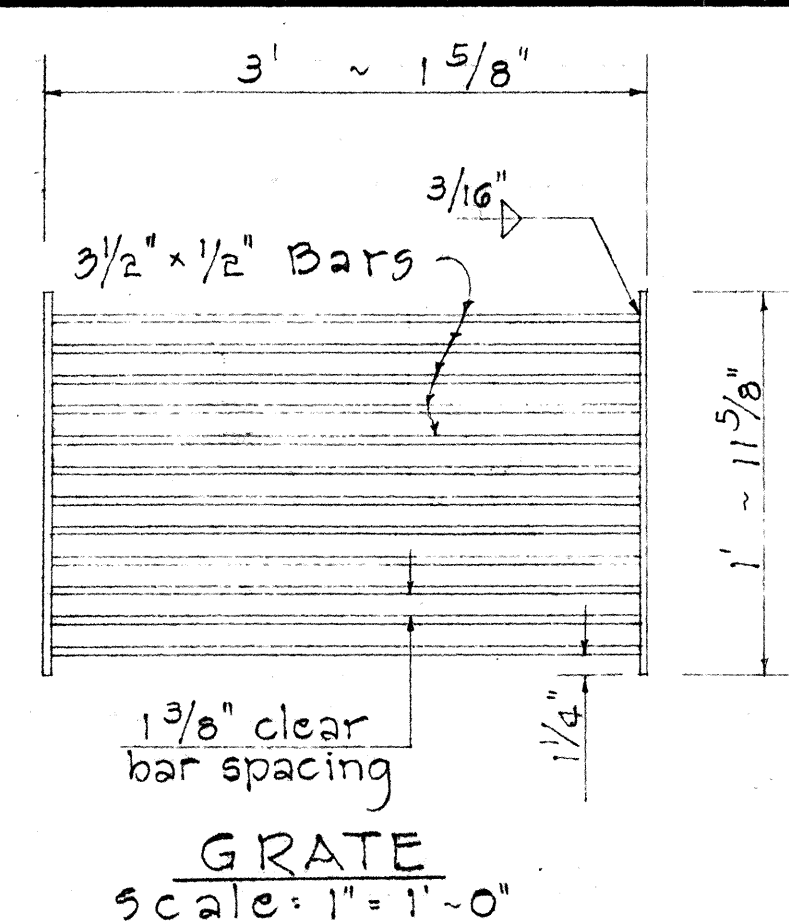
CO 395 (3)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-(31) Unit 2	1968	CO3954	

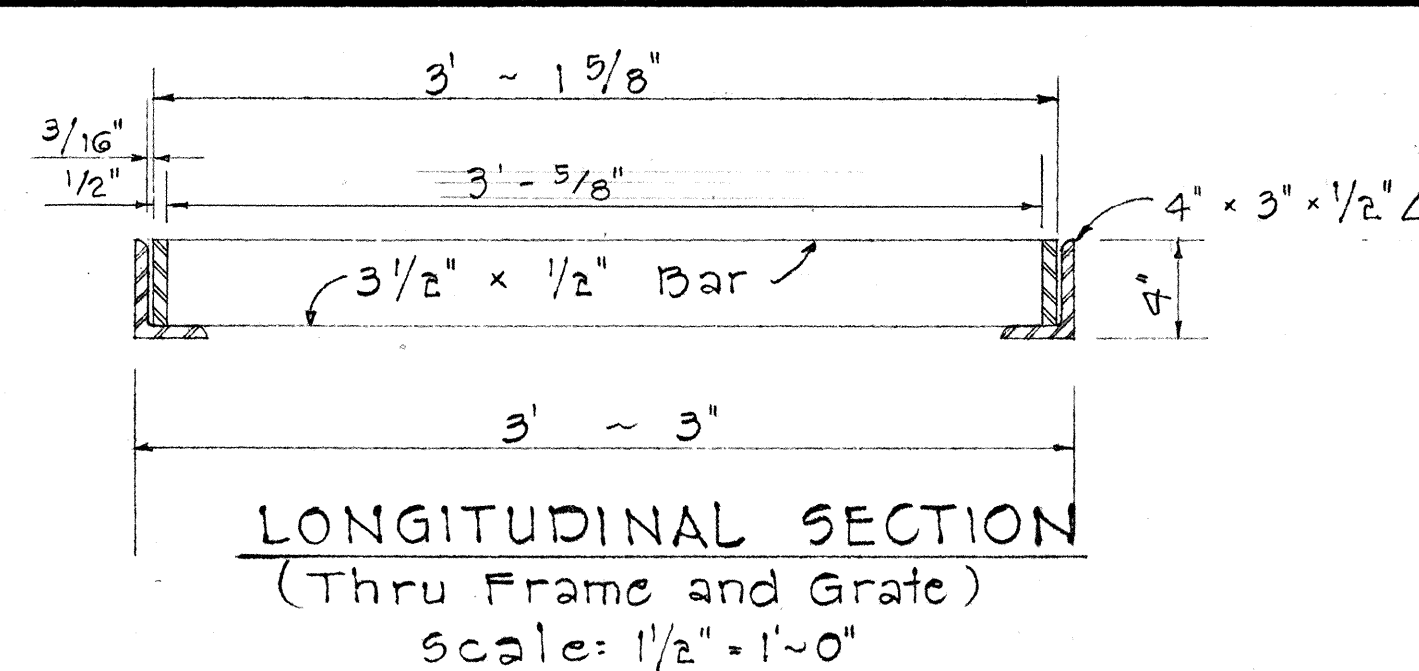
Revised: Aug. 1968



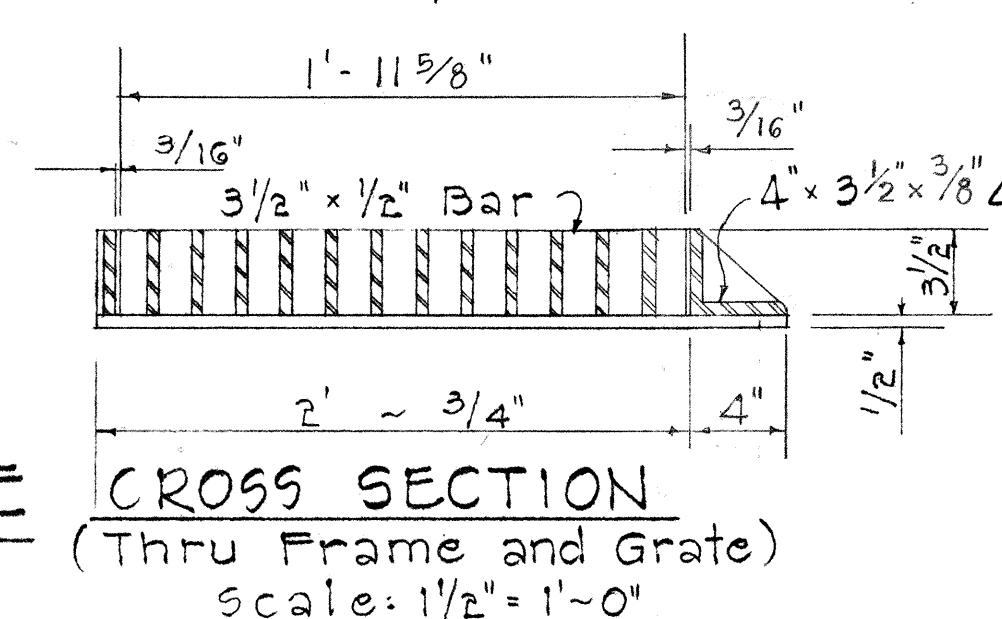
FRAME
scale: 1"=1'-0"



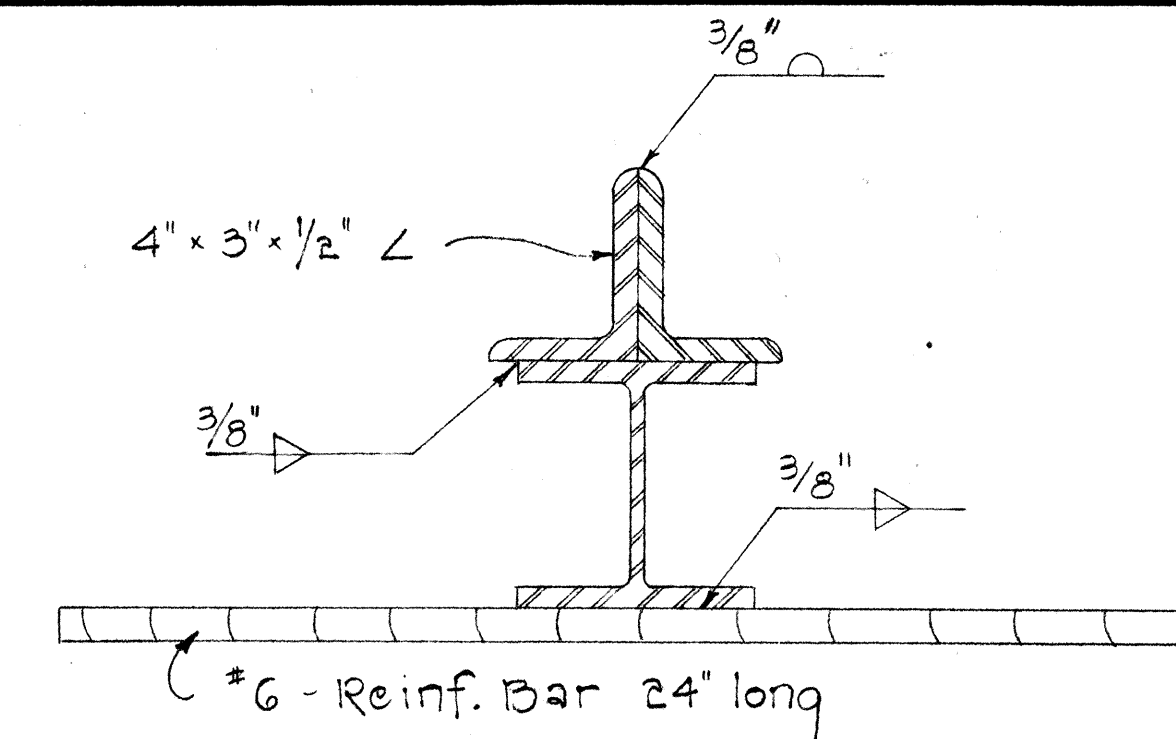
GRATE
scale: 1"=1'-0"



LONGITUDINAL SECTION
(Thru Frame and Grate)
scale: 1 1/2"=1'-0"



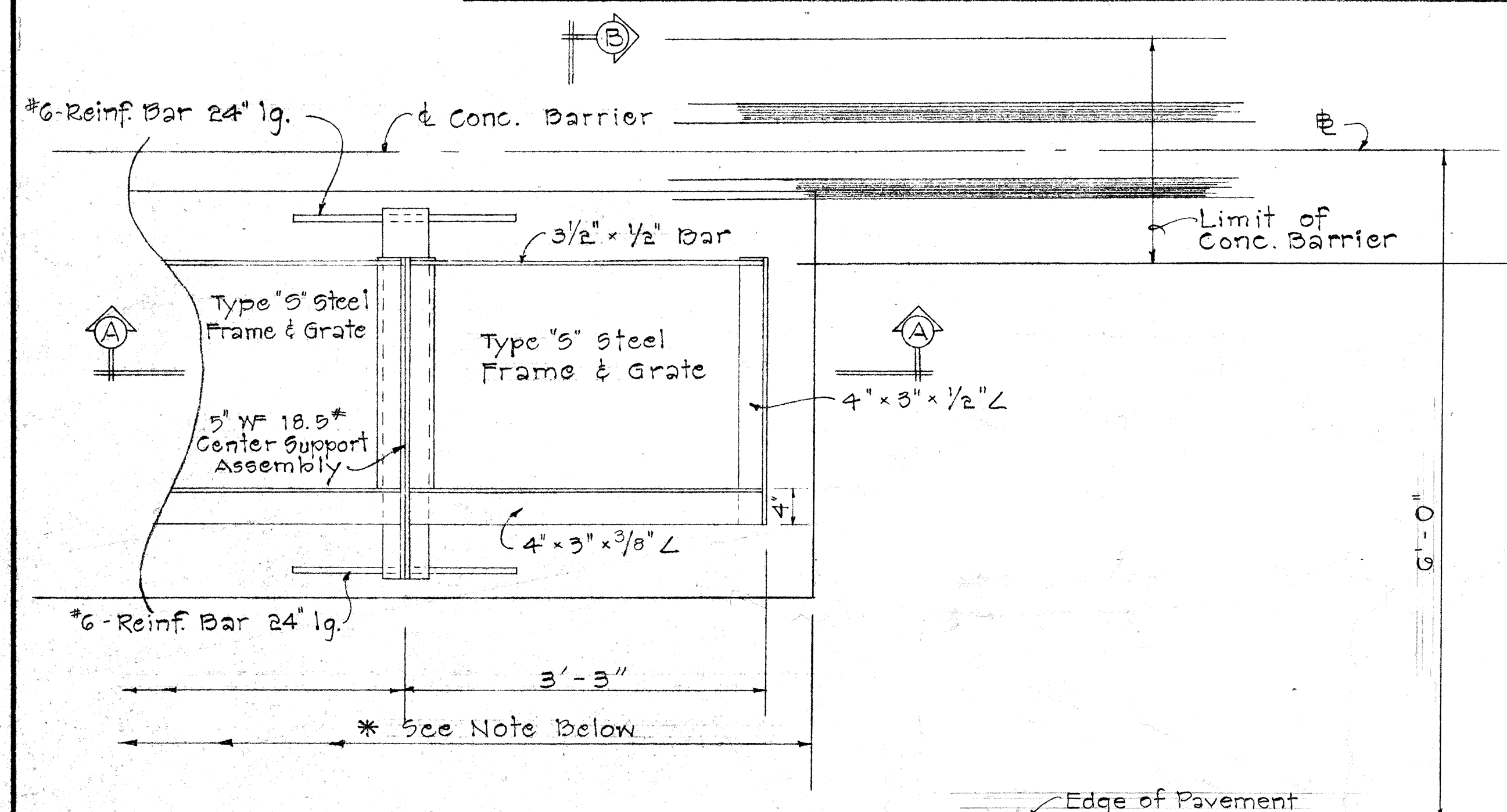
CROSS SECTION
(Thru Frame and Grate)
scale: 1 1/2"=1'-0"



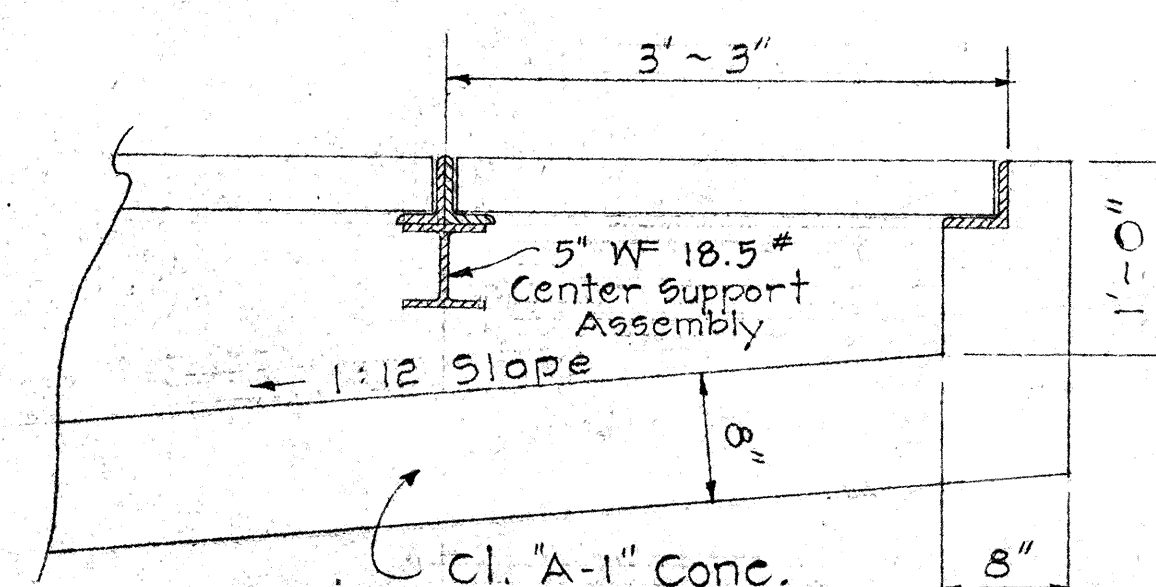
5" WF 18.5# CENTER SUPPORT ASSEMBLY
scale: 3"=1'-0"

NOTE:

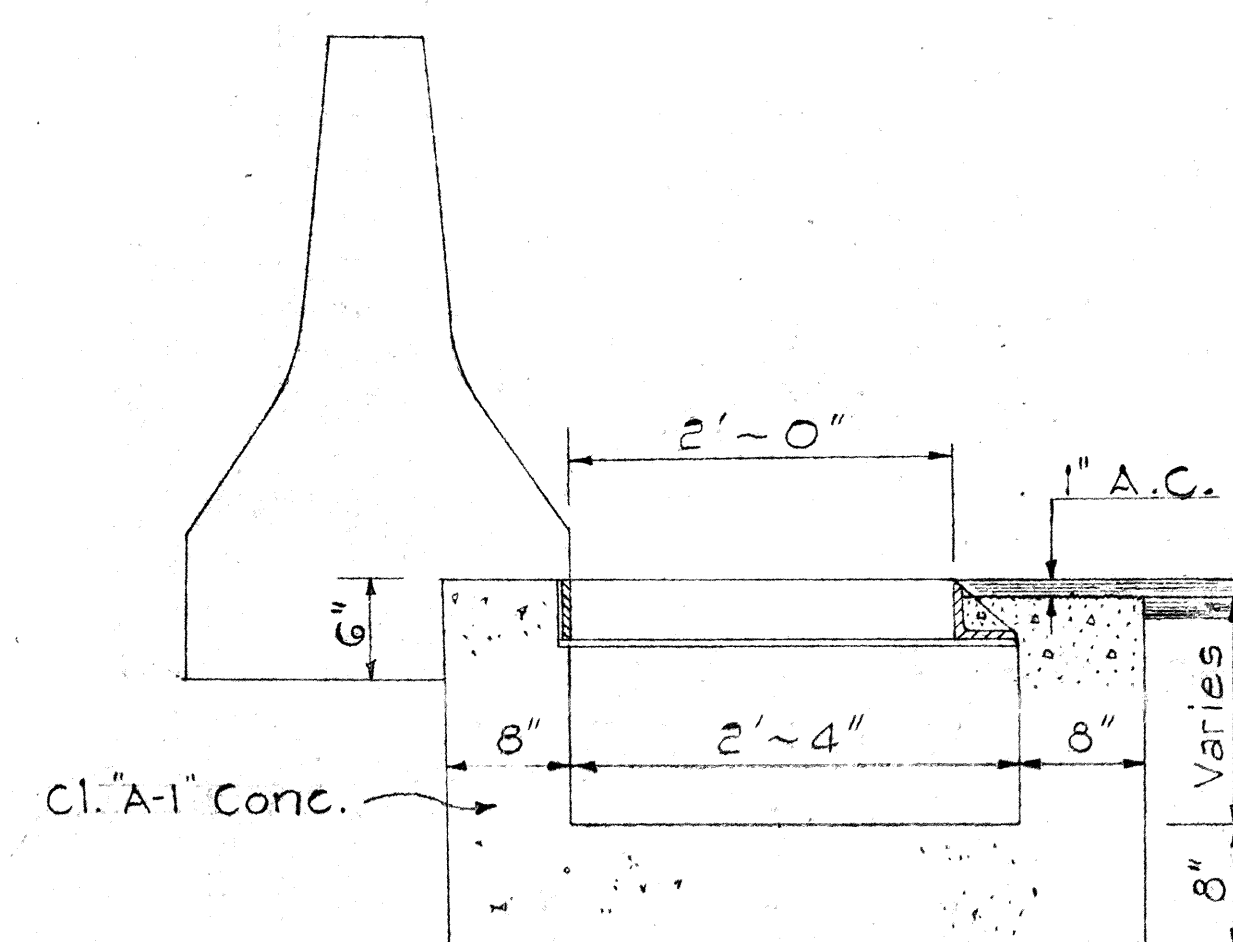
1. All welds 3/8" unless otherwise noted
2. All steel shall be structural grade
3. Grate and Frame shall be hot dip galvanized after fabrication in accordance with section 44 (H) of the standard specifications.



PLAN
scale: 1"=1'-0"



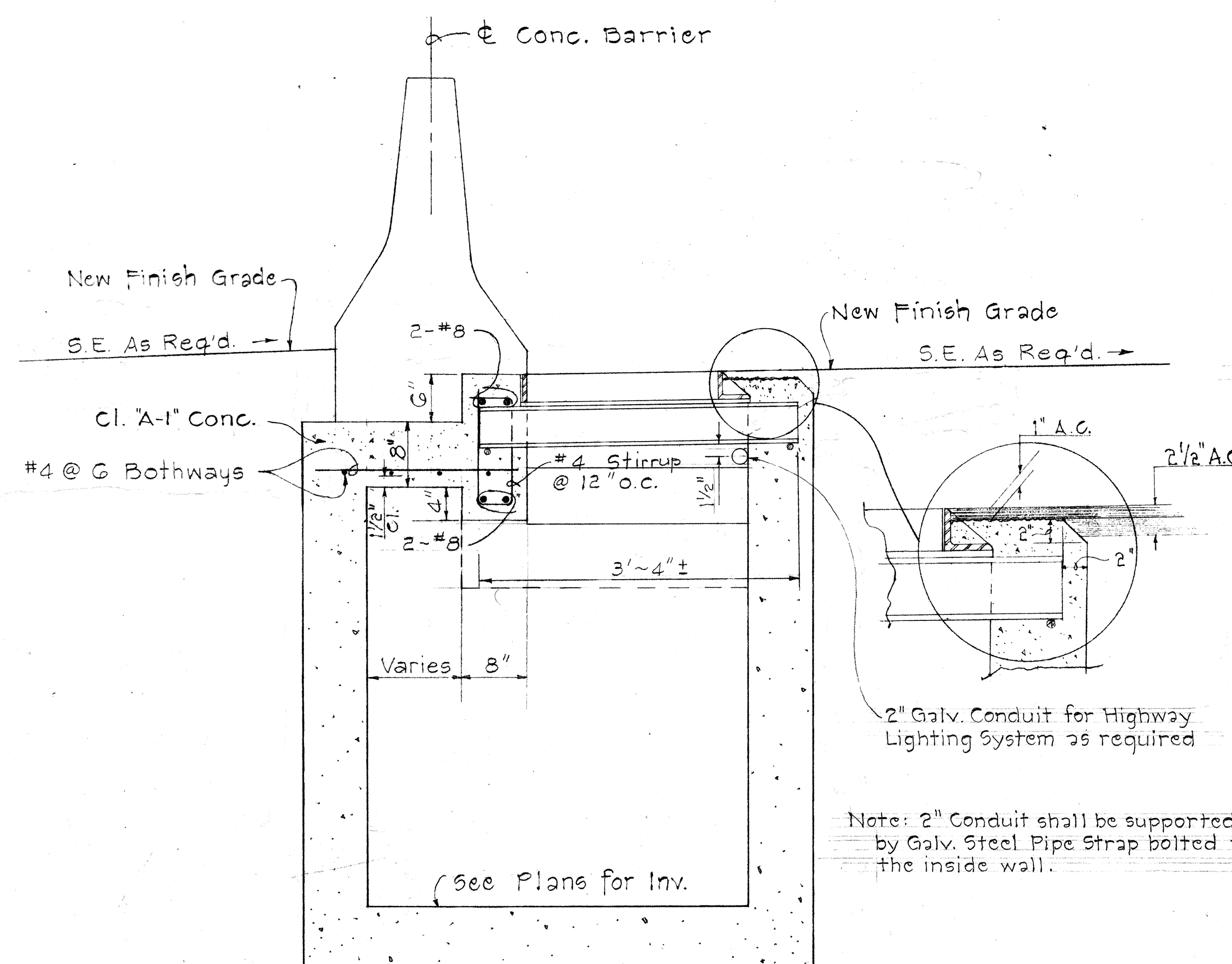
SECTION "A-A"
scale: 1"=1'-0"



SECTION "B-B"
scale: 1"=1'-0"

DETAIL OF NEW C.B. WING

*(Length of wings vary according to number of grates - see detail plan)



TYPICAL SECTION
THRU C.B. FOR CONCRETE BARRIER
scale: 1"=1'-0"

GENERAL NOTES

1. Center Support Assembly shall be used when two or more Gratings are specified.
2. Center Support Assembly shall not be paid for separately, but shall be considered as incidental to Type "S" Steel Frame and Grate.
3. Construct Concrete Barrier at Catch Basins to permit removal of the Grates.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
TYPE "S" STEEL FRAME AND
GRATE FOR MODIFIED C.B.
AND S.D.M.H.
INTERSTATE ROUTE H-1
(Victoria St. to Keenaukoku St.)
F.A.I. Proj. No. I-HI-(31) Unit 2
scale: As shown Aug. 1968
SHEET No. OF SHEETS

THIS SHEET IS A SUPPLEMENT
TO THE CONTRACT PLANS.

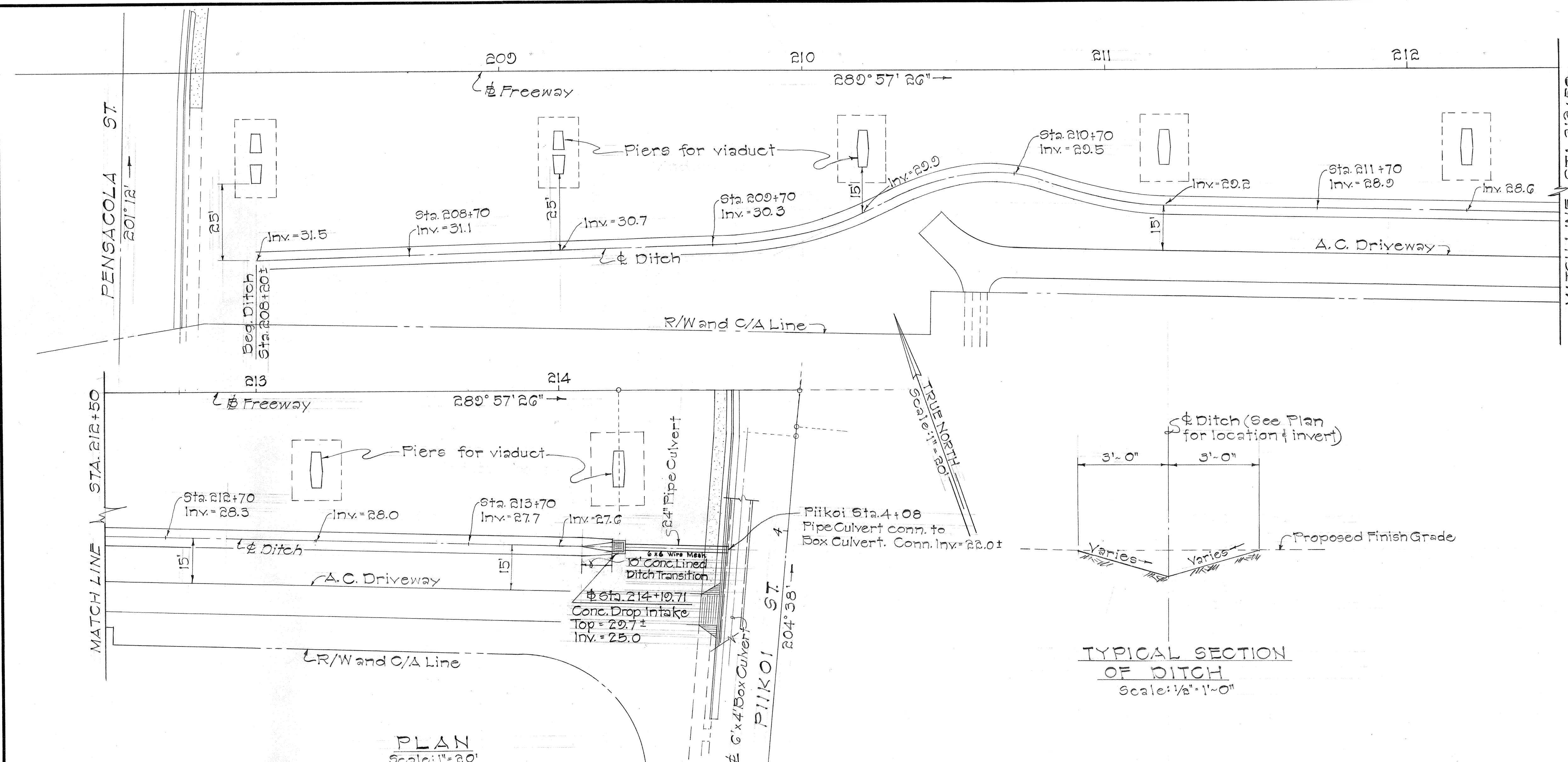
CO3954 (41)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31), Unit 2	1969	CO3959	217

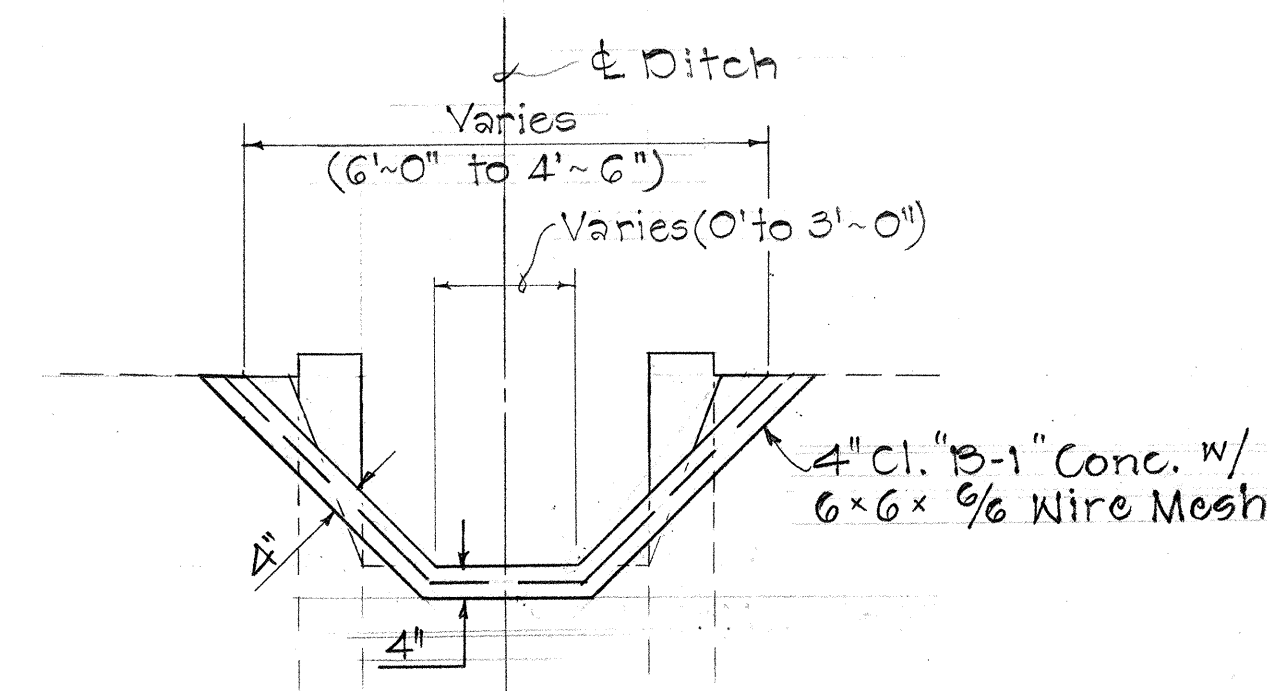
Revised: April 21, 1969

ESTIMATED QUANTITIES

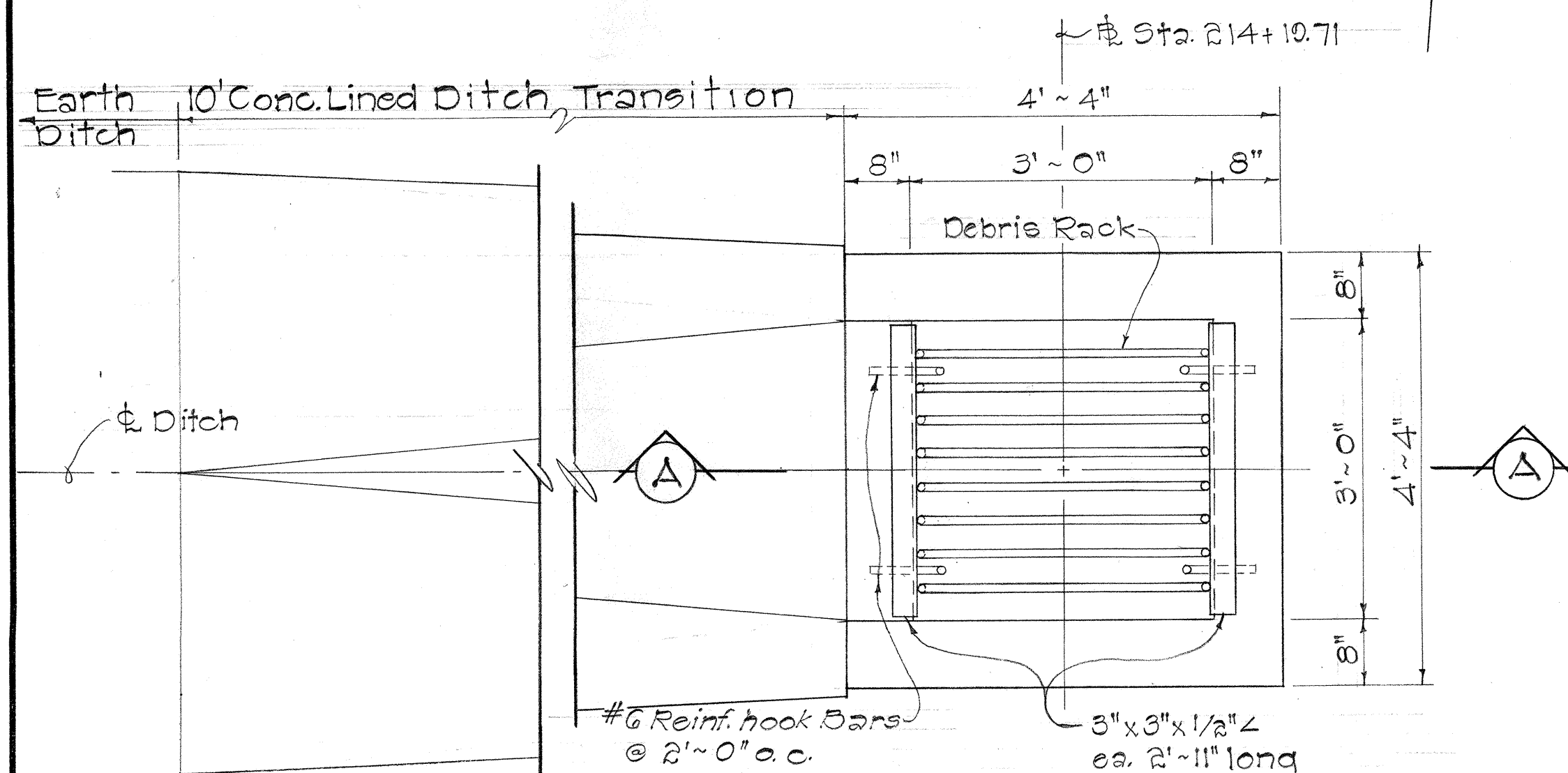
Struct. Exc.	=	40 C.Y.
Cl. "A-1" Conc.	=	2.0 C.Y.
Cl. "B-1" Conc.	=	1.0 C.Y.
Reinf. Steel	=	150 lbs.
Debris Rack	=	1 Ea.
24" Pipe Culvert	=	36 L.F.



TYPICAL SECTION OF DITCH
Scale: 1/2" = 1'-0"

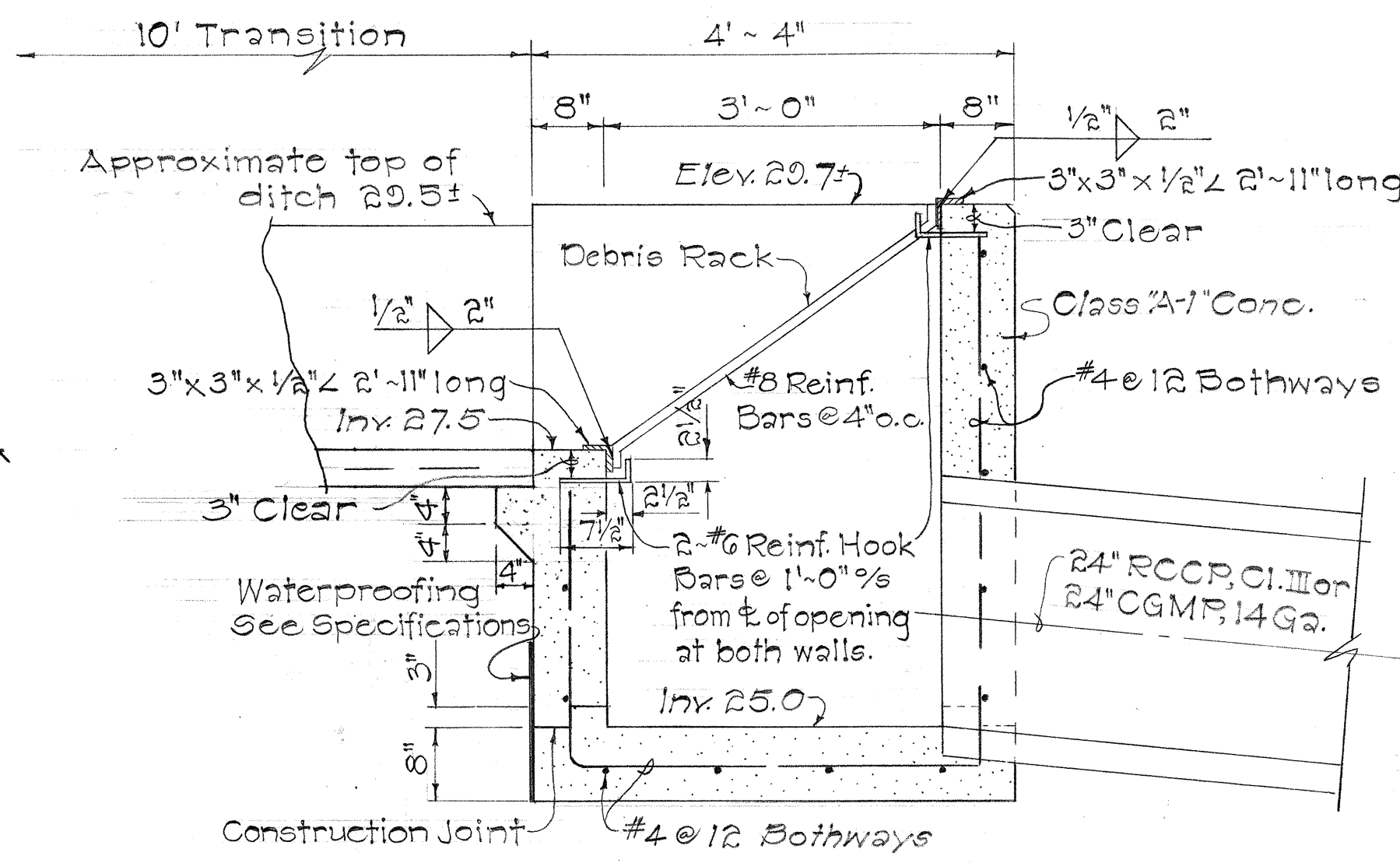


TYPICAL SECTION OF DITCH TRANSITION
Scale: 1/2" = 1'-0"

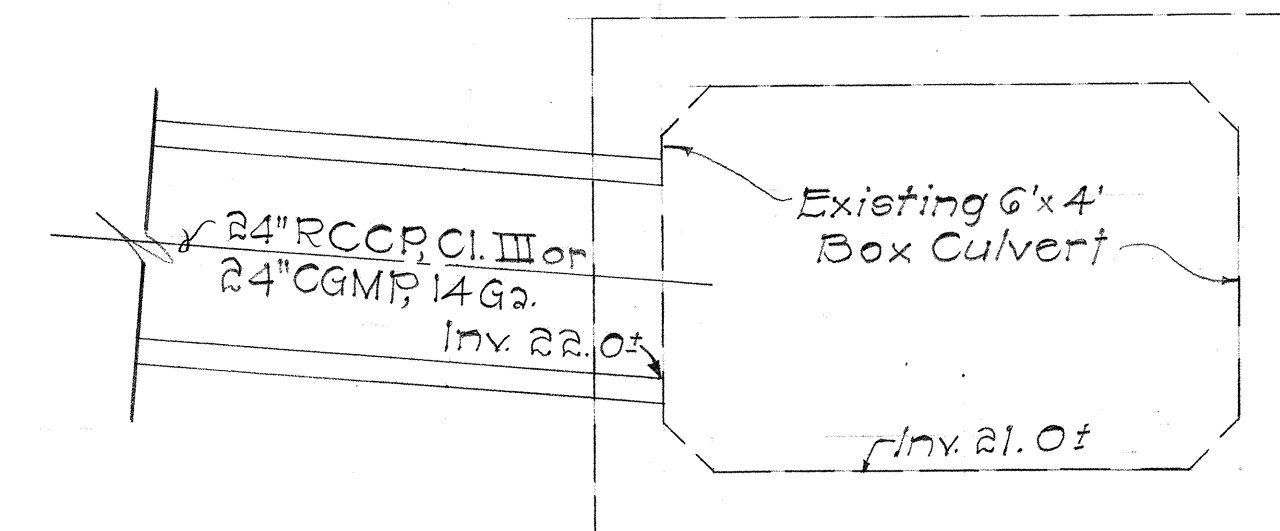


PLAN

DETAIL OF C.D.I. AT STA. 214+10.71
Scale: 3/4" = 1'-0"



SECTION 'A-A'



PIPE CONNECTION TO BOX CULVERT @ PIKIOI STA. 4+08
Scale: 1/2" = 1'-0"

- NOTE:**
1. Provide construction joint as shown for C.D.I. if not formed monolithically.
 2. Where connections are made to existing facilities, mortar shall be used to seal around the culvert at the connection.
 3. Payment for 6x6 x 1/2" Wire Mesh shall be in pounds under Contract Item No. 48.01

All the quantities shown are original theoretical quantities. For actual quantities, refer to project ledger and/or computation book.
THIS SHEET IS A SUPPLEMENT TO THE CONTRACT PLAN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

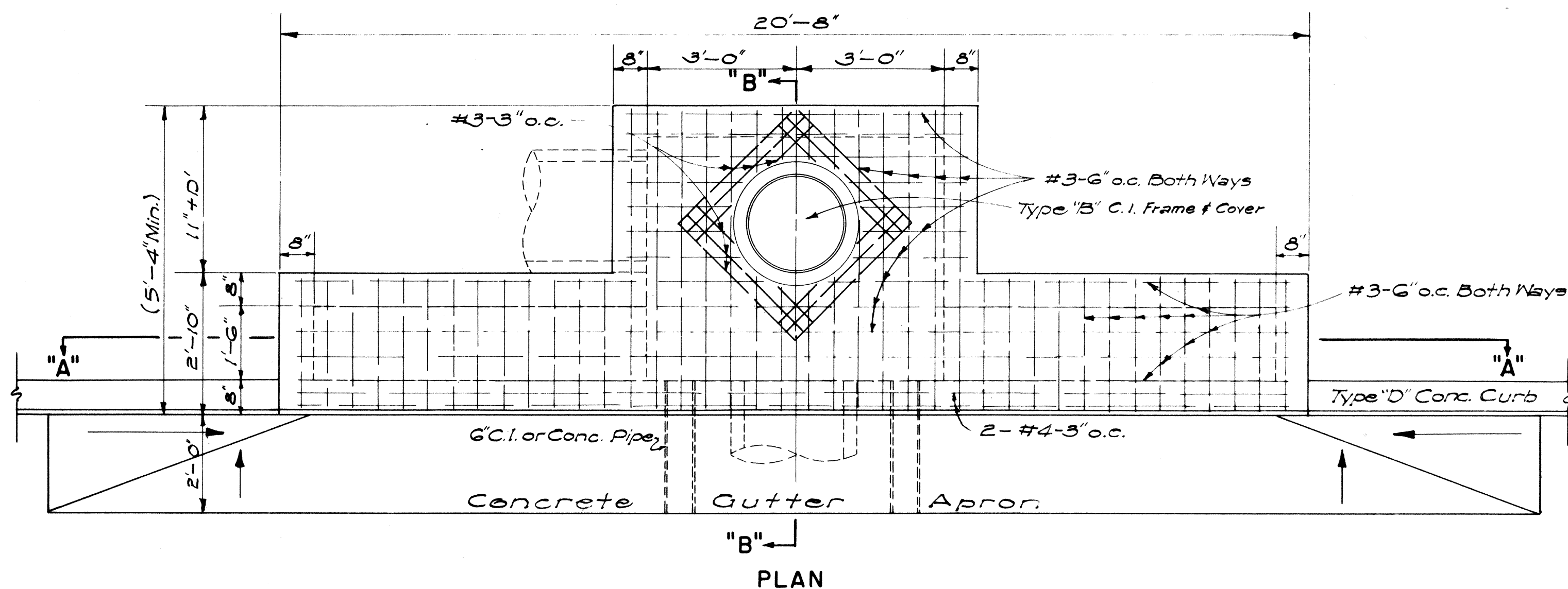
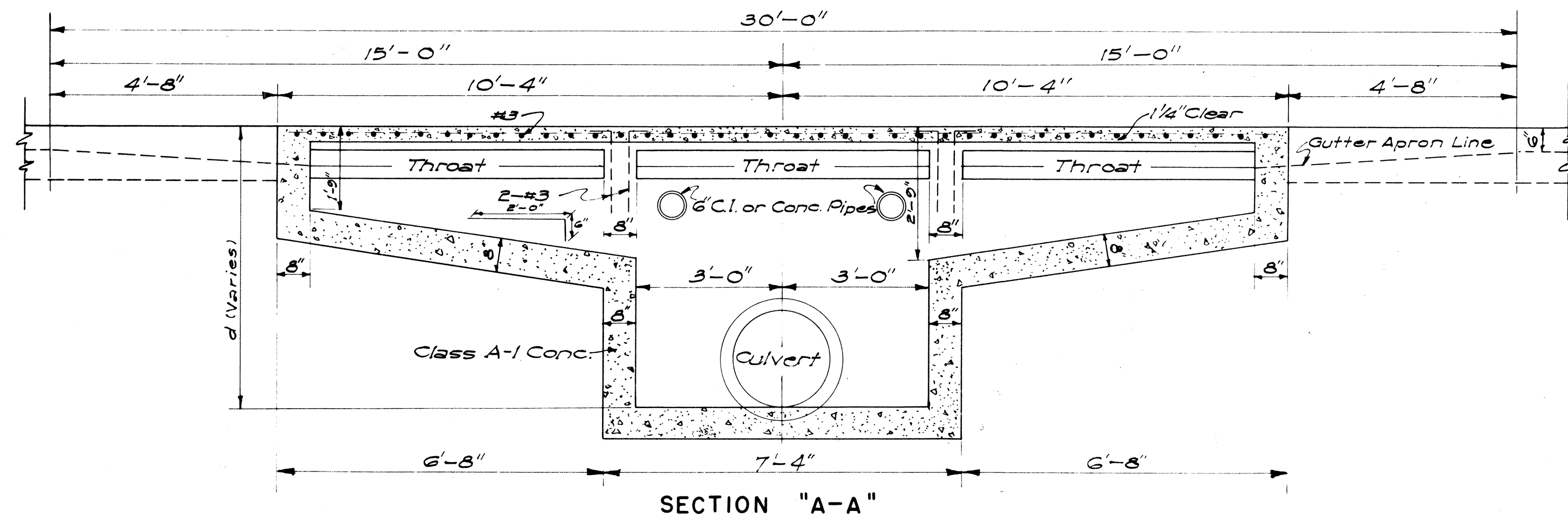
INTERSTATE ROUTE H-1
Victoria St. to Keeaumoku St.
F.A.I. Proj. No. I-HI-1(31), Unit 2
Scale: As Shown Date: April 1, 1969

SHEET No. OF SHEETS

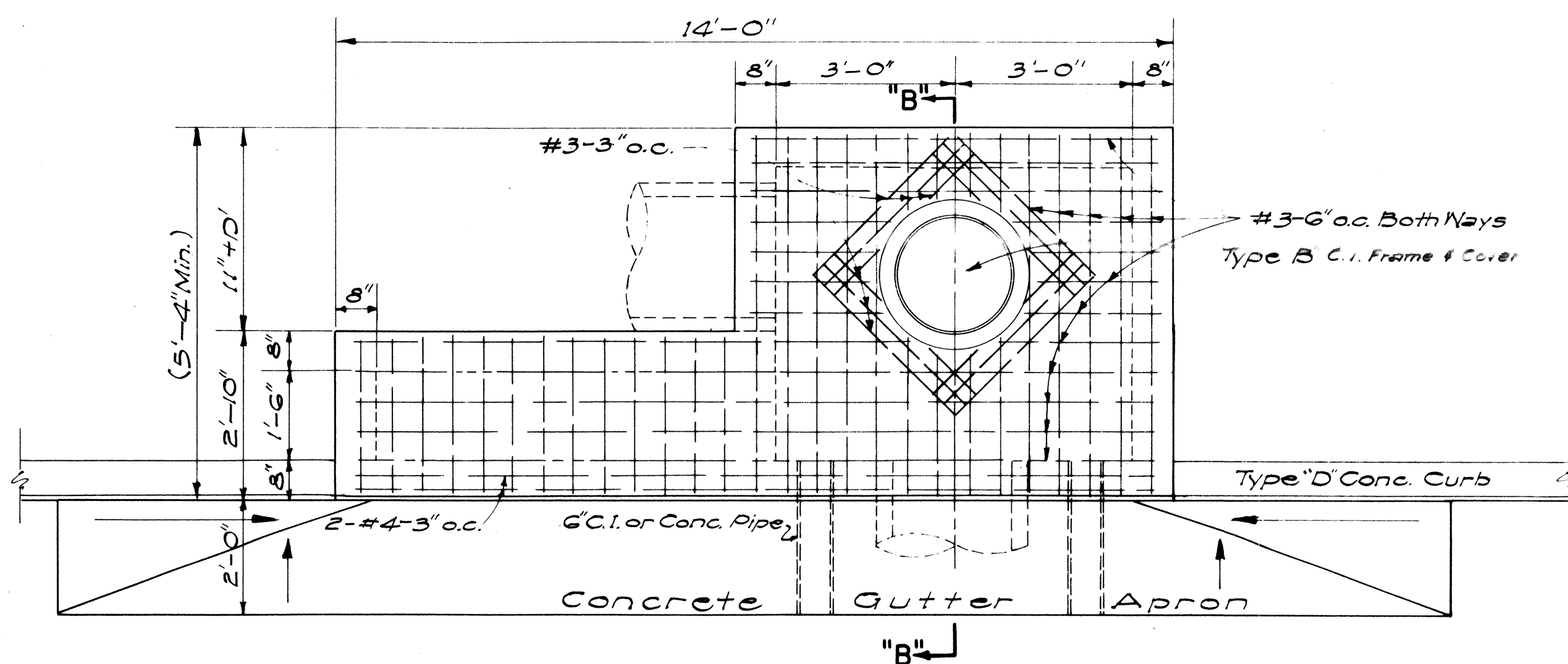
CO 39 S(3)

SURVEY PLATTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

2/17/59

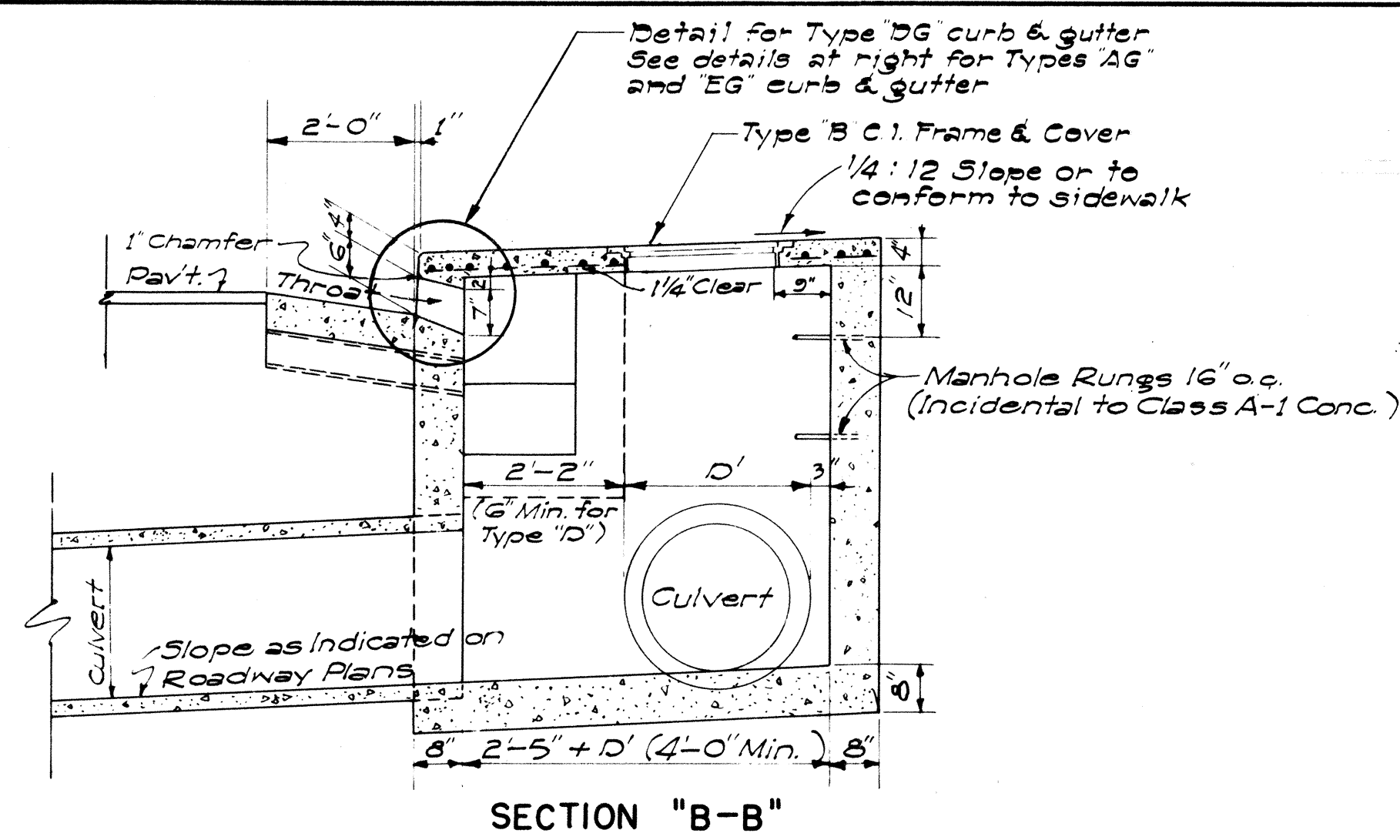


DETAIL OF TYPE "A" CATCH BASIN
SCALE: 1/2" = 1'-0"

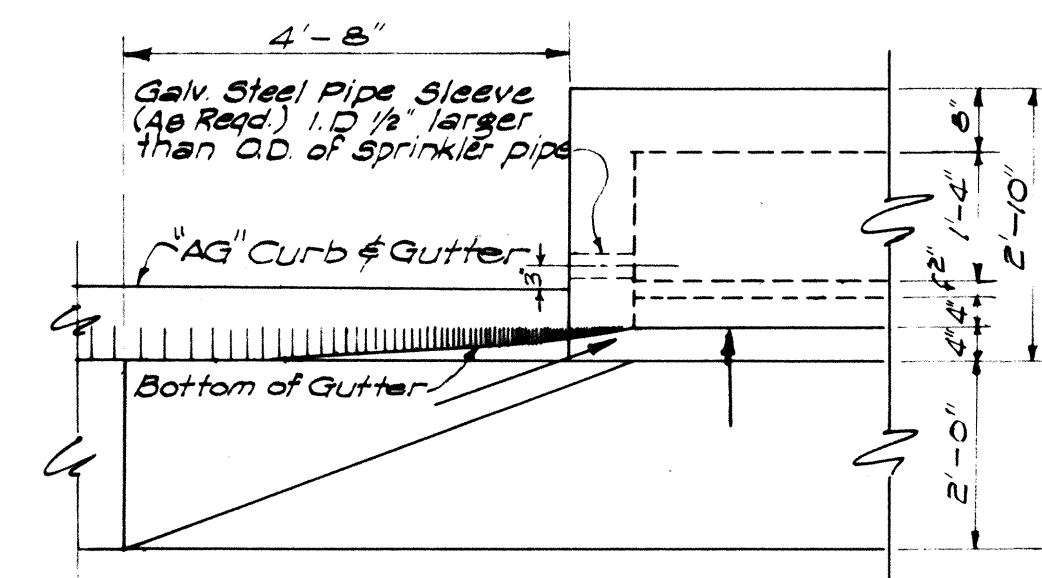


DETAIL OF TYPE "B" CATCH BASIN
SCALE: 1/2" = 1'-0"

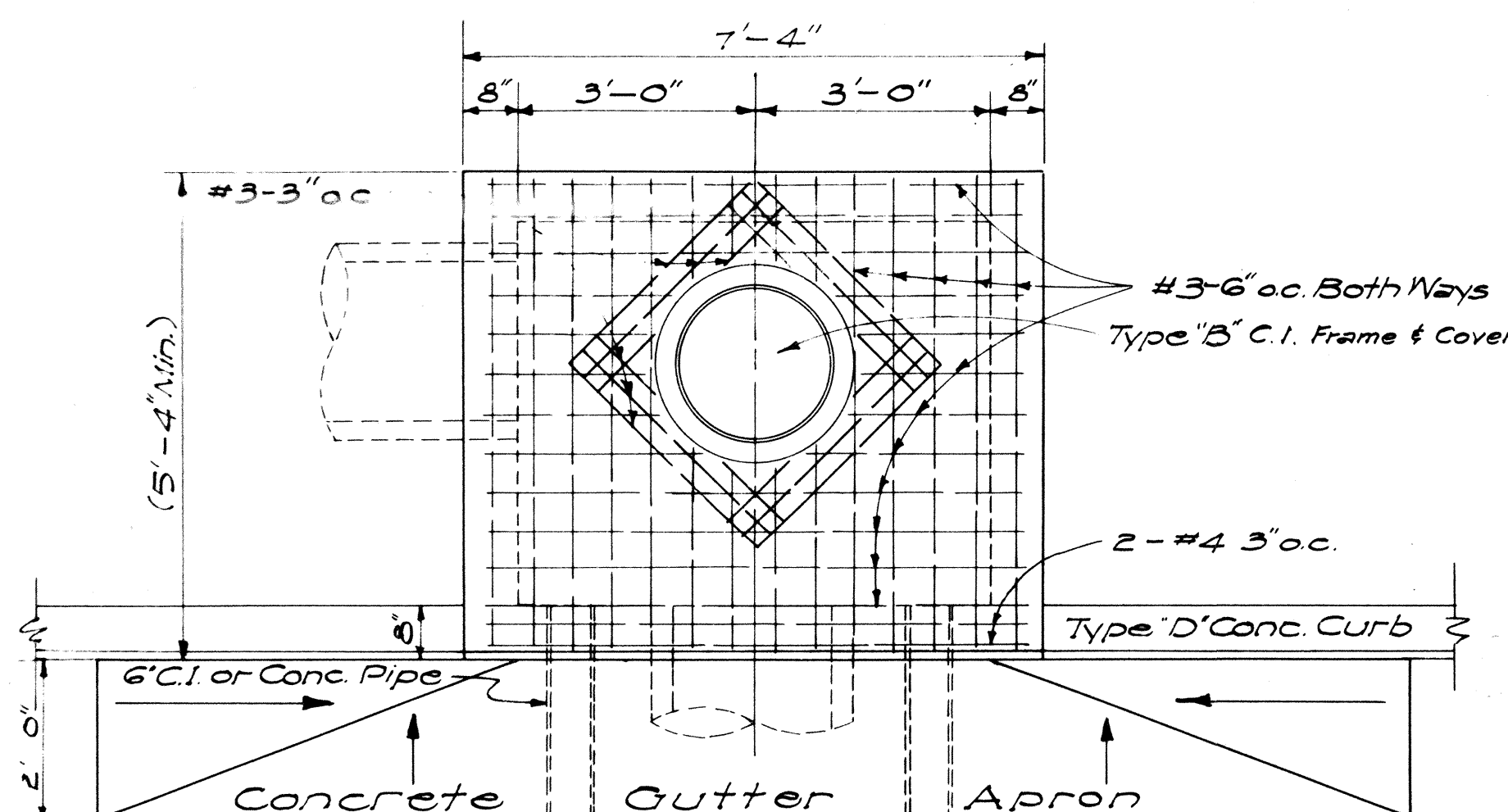
NOTE: TYPE "C" C.B. SIMILAR BUT OPPOSITE HAND



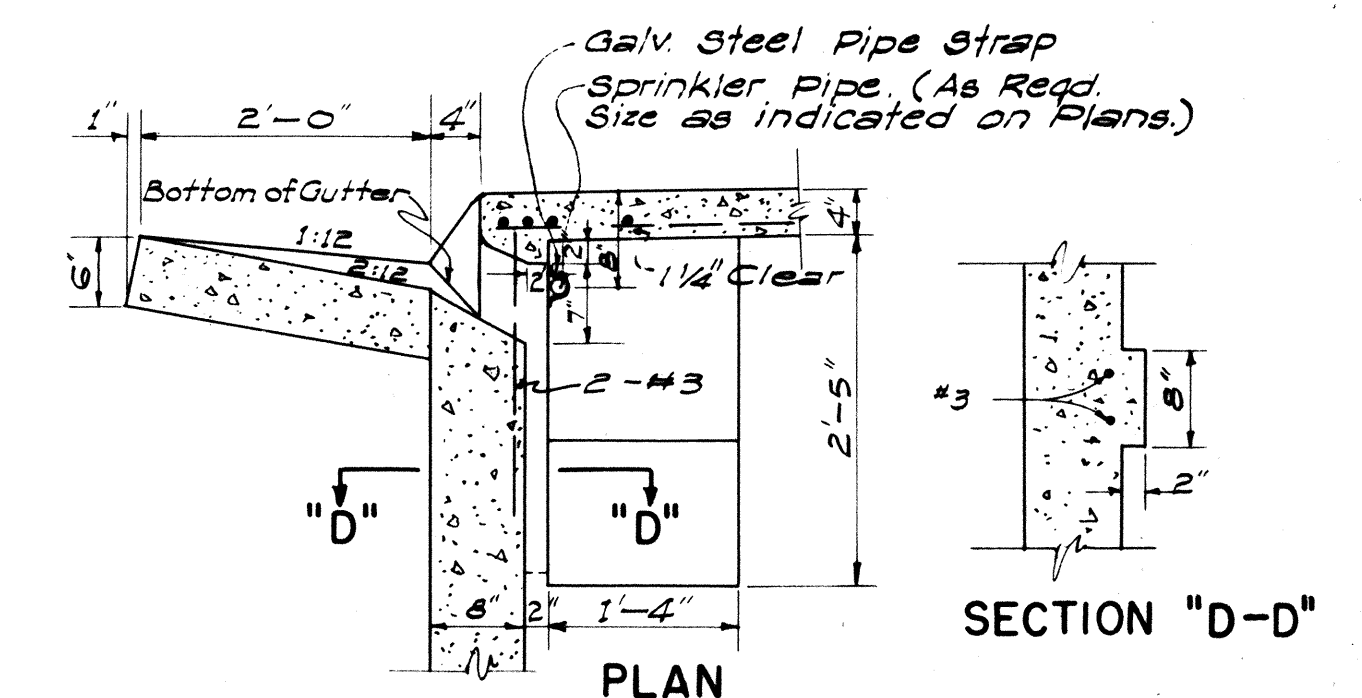
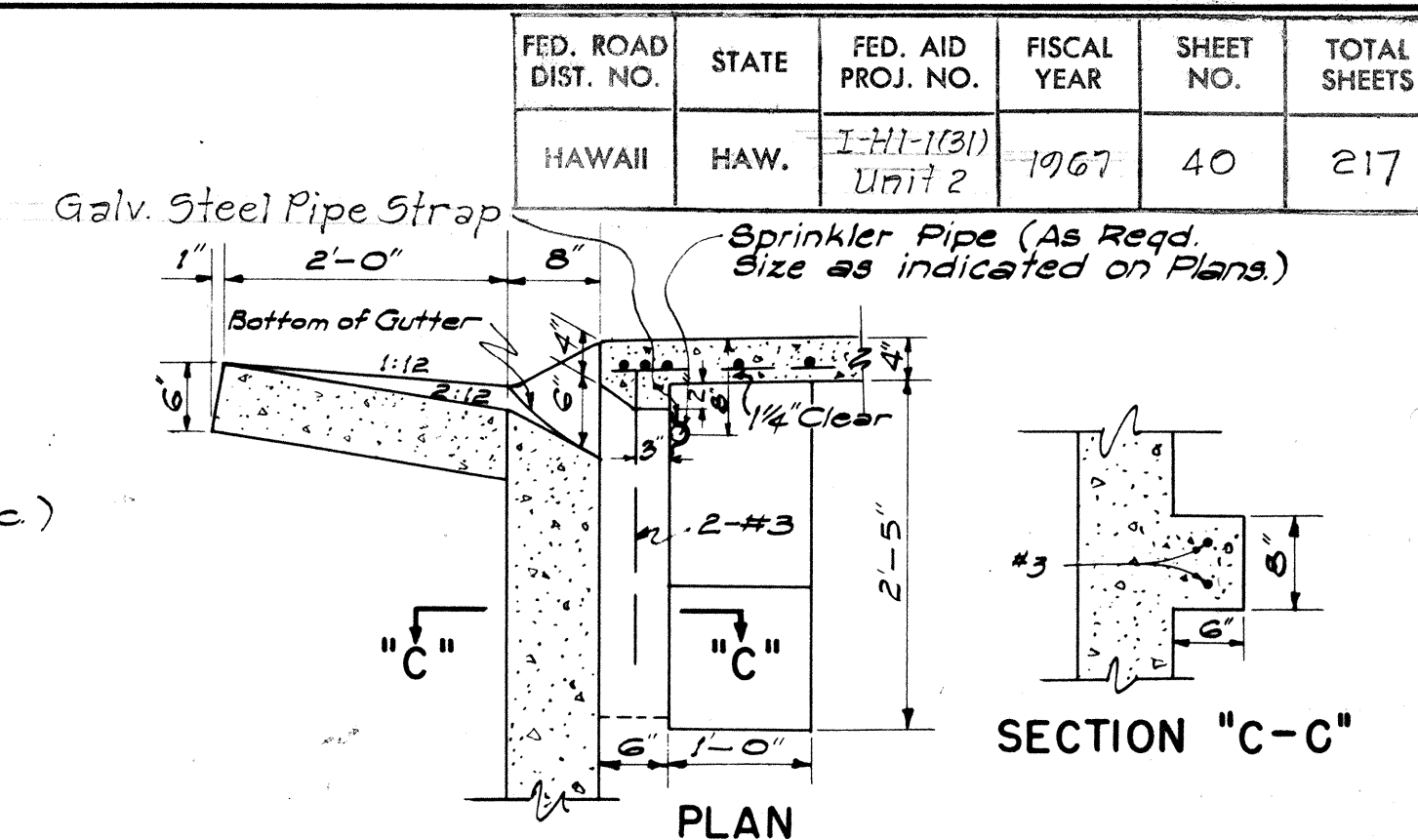
DETAIL OF CATCH BASIN
WITH TYPE "EG" CURB & GUTTER



DETAIL OF CATCH BASIN
WITH TYPE "AG" CURB & GUTTER
SCALE: 1/2" = 1'-0"



DETAIL OF TYPE "D" CATCH BASIN
SCALE: 1/2" = 1'-0"



ESTIMATED QUANTITIES

Type	Class A-1 Conc.	Struct. Exc.	Reinf. Steel	Gutter Length
"A"	7.5 cy	24.7 cy	145 lb.	30'-0"
"B"	6.0 cy	21.5 cy	108 lb.	23'-4"
"C"	6.0 cy	21.5 cy	108 lb.	23'-4"
"D"	4.9 cy	16.5 cy	77 lb.	16'-8"

NOTES:

- Quantities based on d = 5.75' and D = 30"
- Quantities do not include concrete for Gutter Apron.
- The Contractor shall install two 6" Cast Iron or Concrete Pipes as incidental to Class A-1 Concrete for Construction Drainage.
- Culvert shall leave C.B. from any position and any direction indicated by plans or ordered by the Engineer. Culvert may both enter and leave C.B. so that C.B. will also act as Manhole.
- The Contractor shall install Galvanized Steel Pipe Sleeves and Straps as incidental to Sprinkler System.

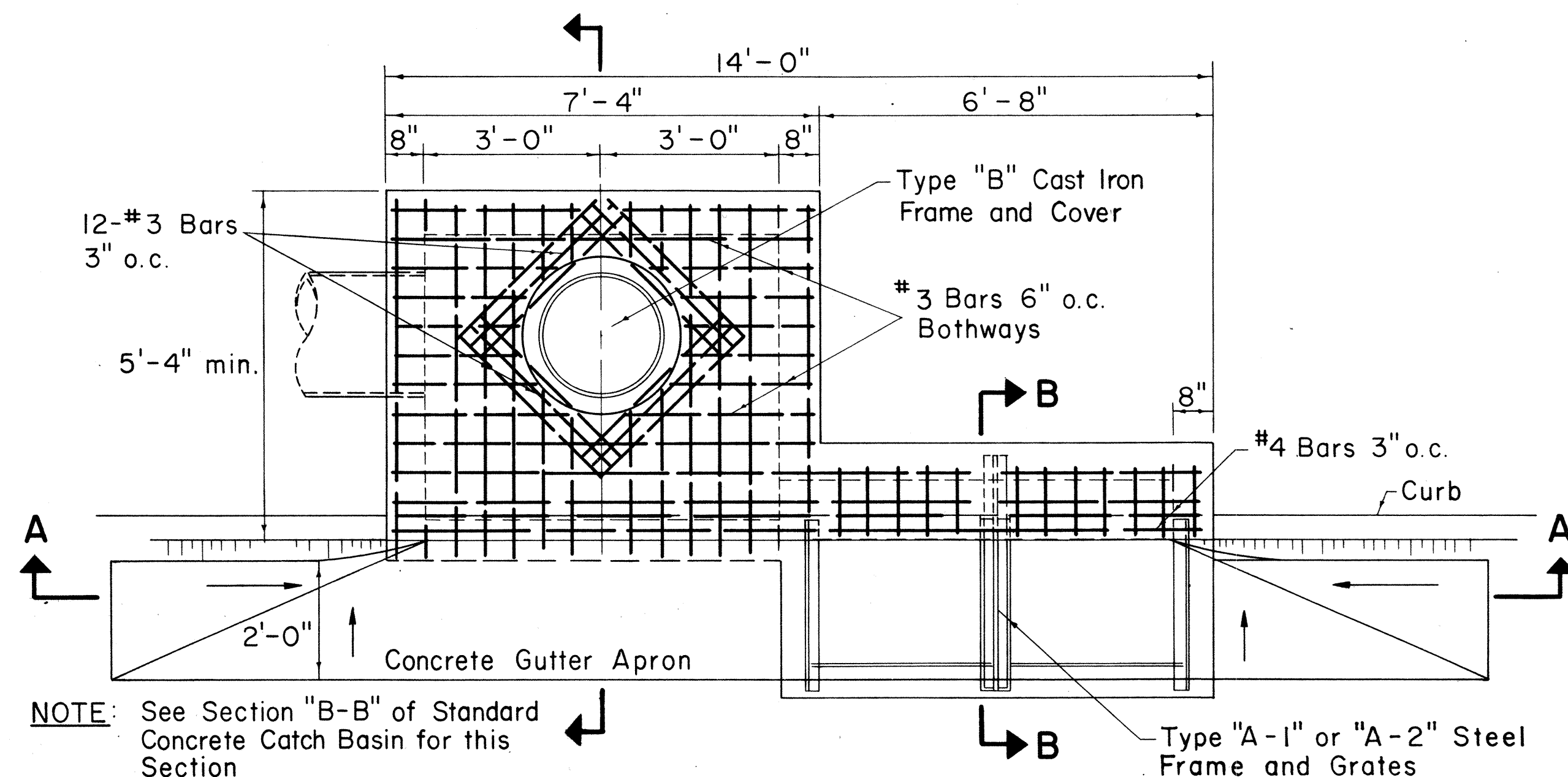
APPROVED: _____ DATE: _____
STATE HIGHWAY ENGINEER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
CATCH BASINS

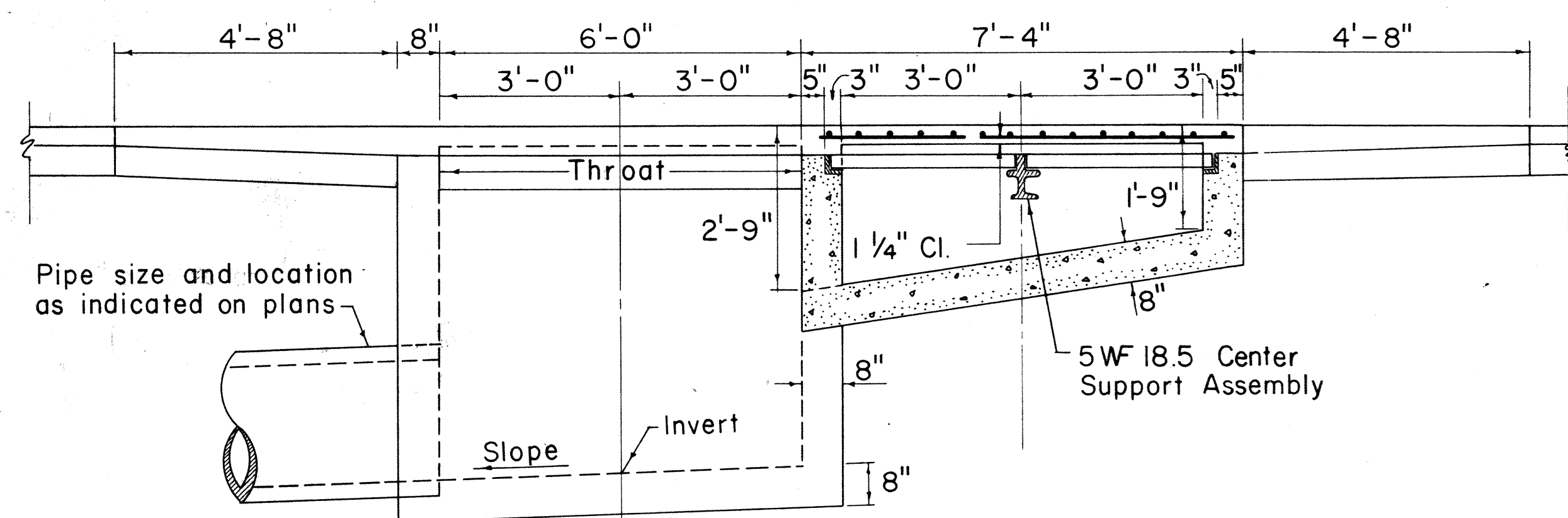
SCALES AS NOTED
SHEET NO. 13 OF 17 SHEETS

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	1-HI-1(31) Unit 2	1967	41	217

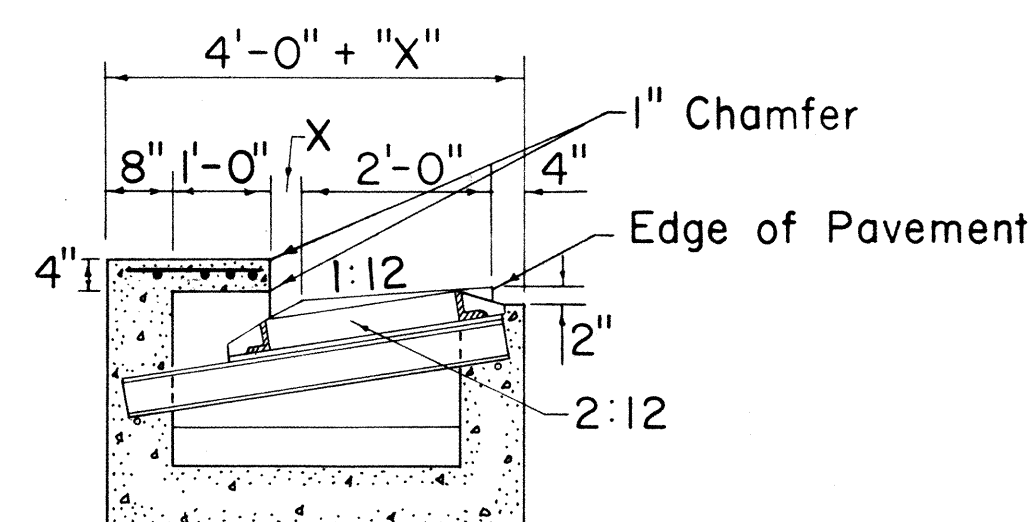
Revised: Jan. 25, 1967



PLAN



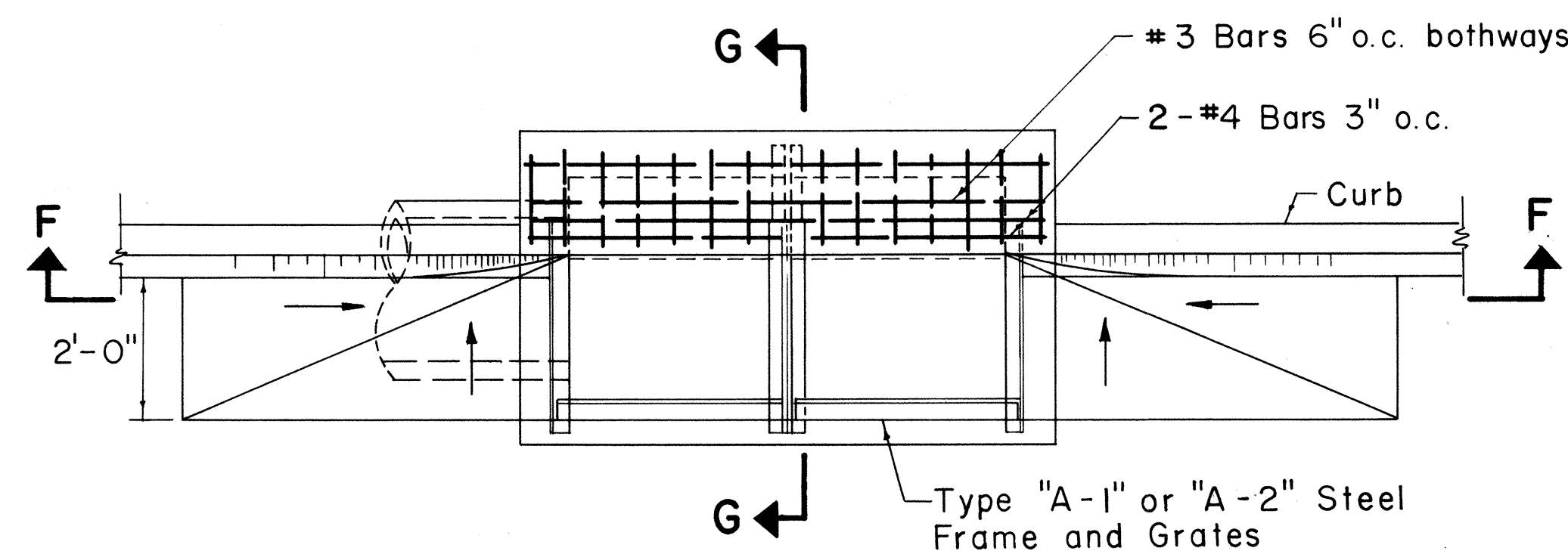
SECTION A-A



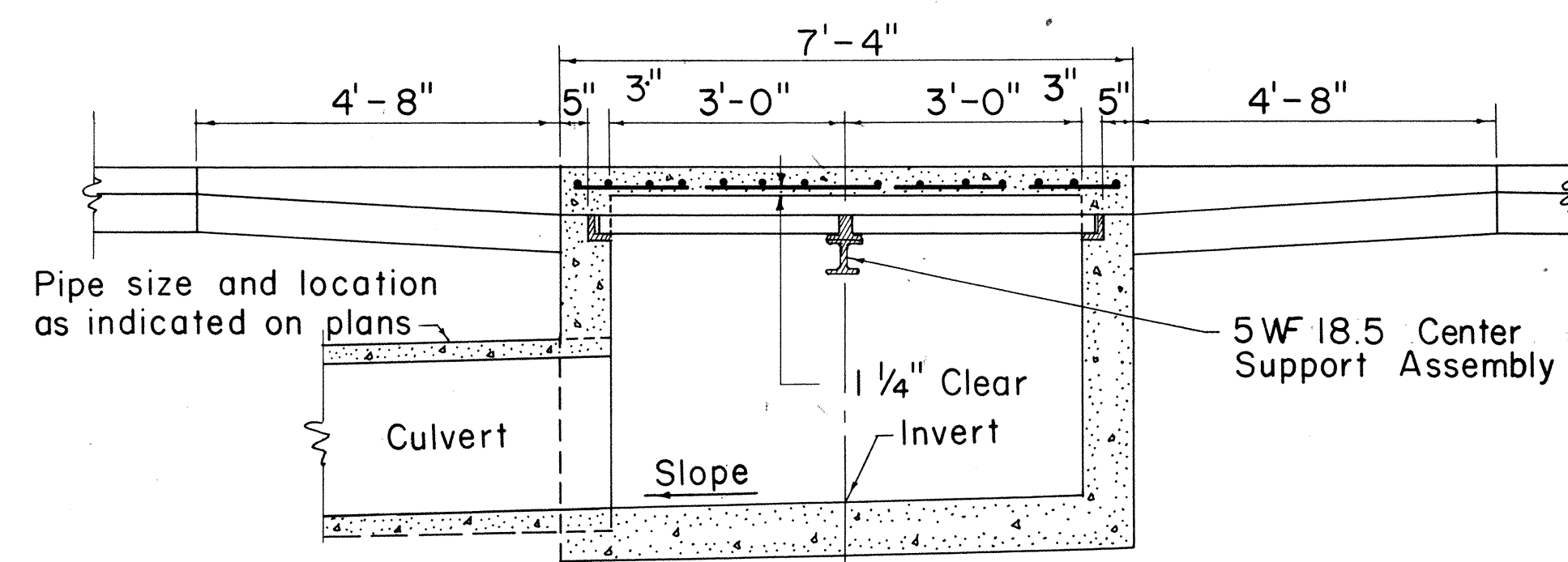
SECTION B-B

DETAIL OF TYPE "CG" CATCH BASIN

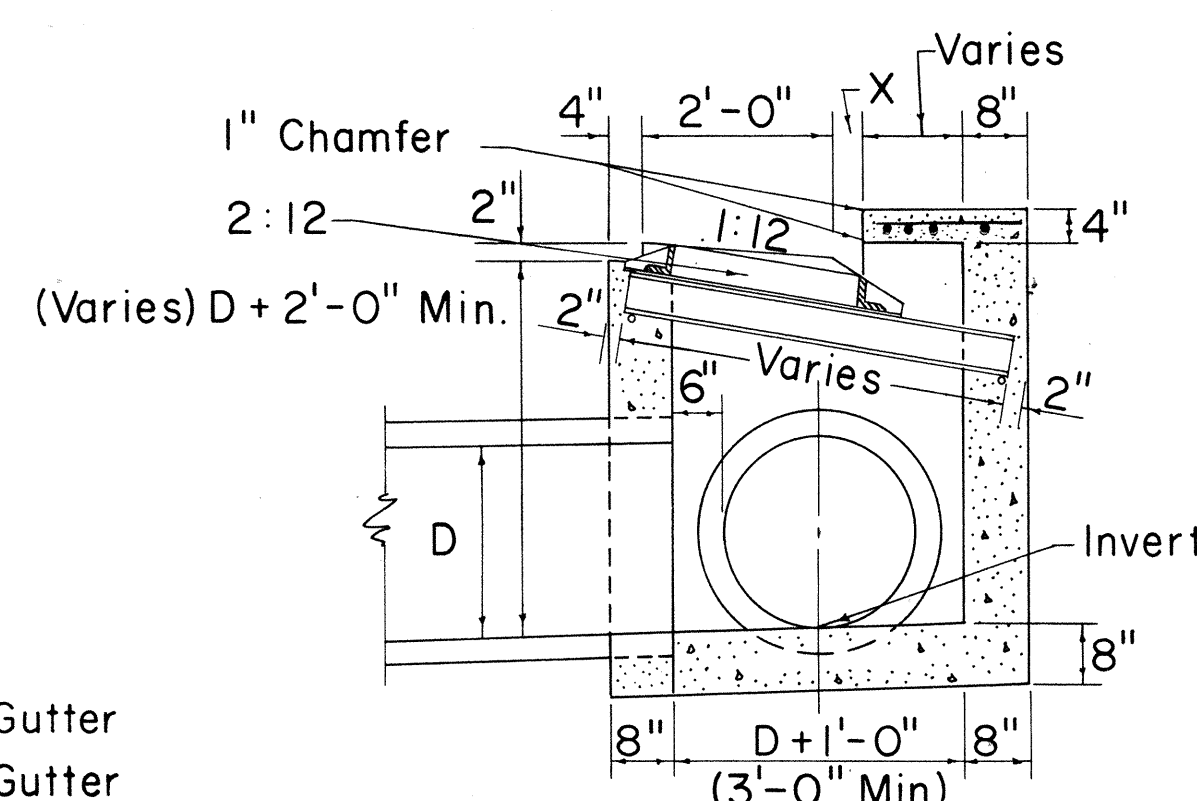
Scale: 1/2" = 1'-0"



PLAN



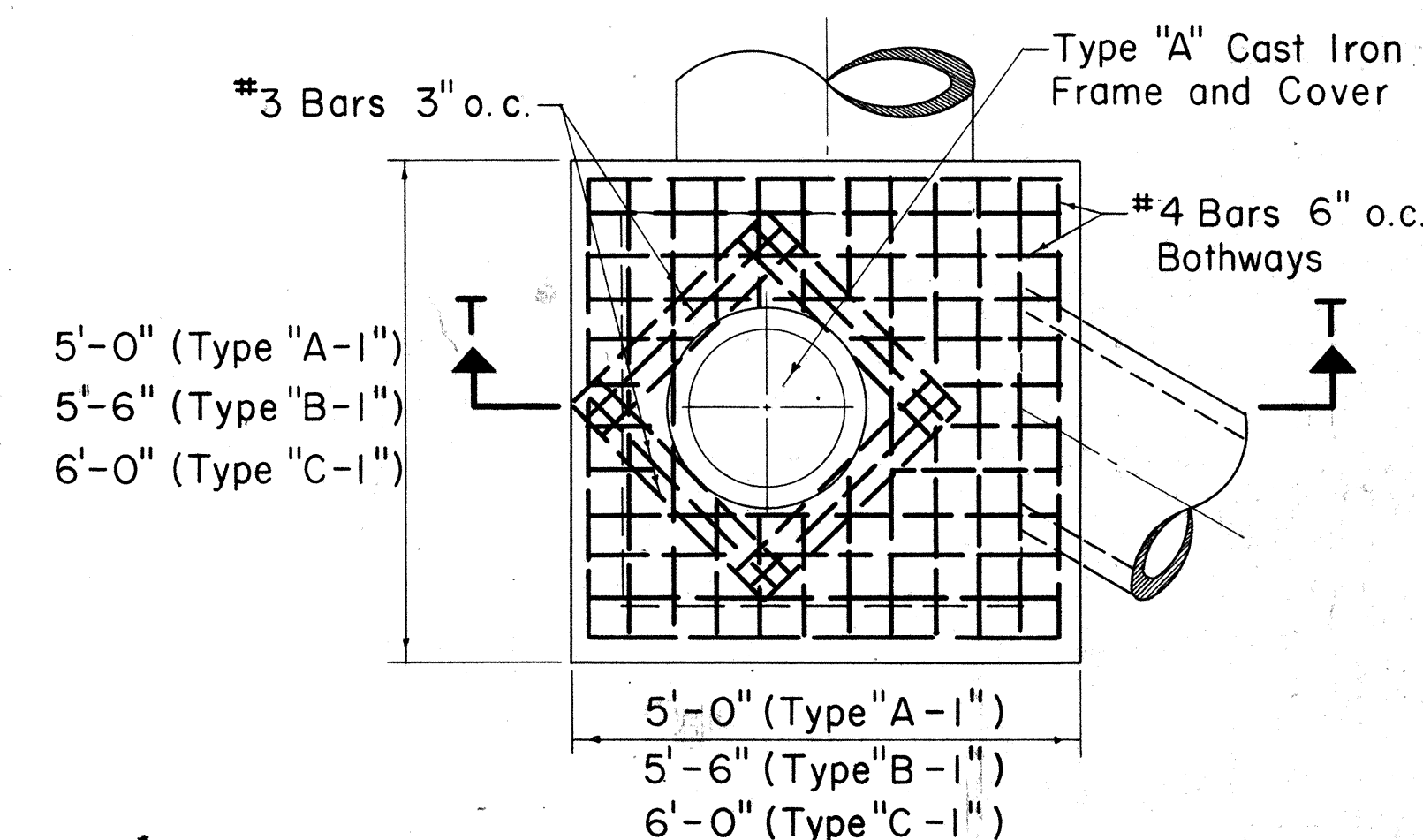
SECTION F-F



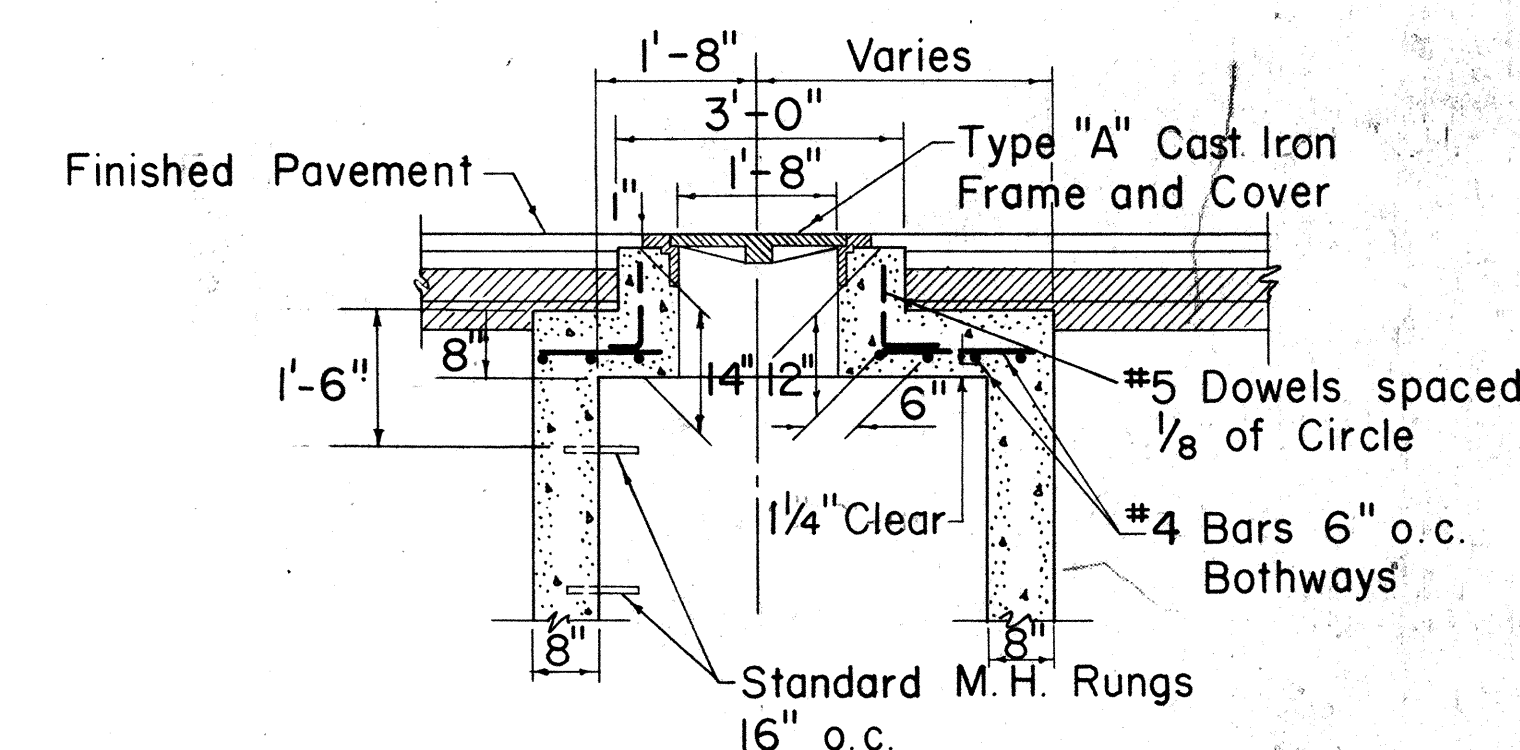
SECTION G-G

DETAIL OF TYPE "DG" CATCH BASIN

Scale: 1/2" = 1'-0"



PLAN



SECTION T-T

TYPE "A-1," "B-1," & "C-1" STORM DRAIN MANHOLE TOP DETAIL UNDER PAVEMENT (BOTTOM DETAIL SIMILAR TO TYPE "A," "B," & "C")

Scale: 1/2" = 1'-0"

APPROVED:

DIRECTOR OF TRANSPORTATION DATE

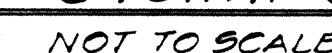
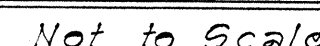
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

CATCH BASINS AND
STORM DRAIN MANHOLES

Scales: As Noted Date April, 1967

SHEET NO. D-14 OF 17 SHEETS



SCALES AS NOTED

SHEET NO D-16 OF 17 SHEETS

SUMMARY

Revised: Dec. 6, 1967
Revised: April 25, 1968

* Total quantities for 6'x4' & 5'x4' Box Culvert, and M.H. openings at Sta. 3+57±, Sta. 5+35 and Sta. 7+37

SHEET No.D-17A OF 17 SHEETS

(NOT A PART OF CONTRACT DRAWINGS)

SUMMARY

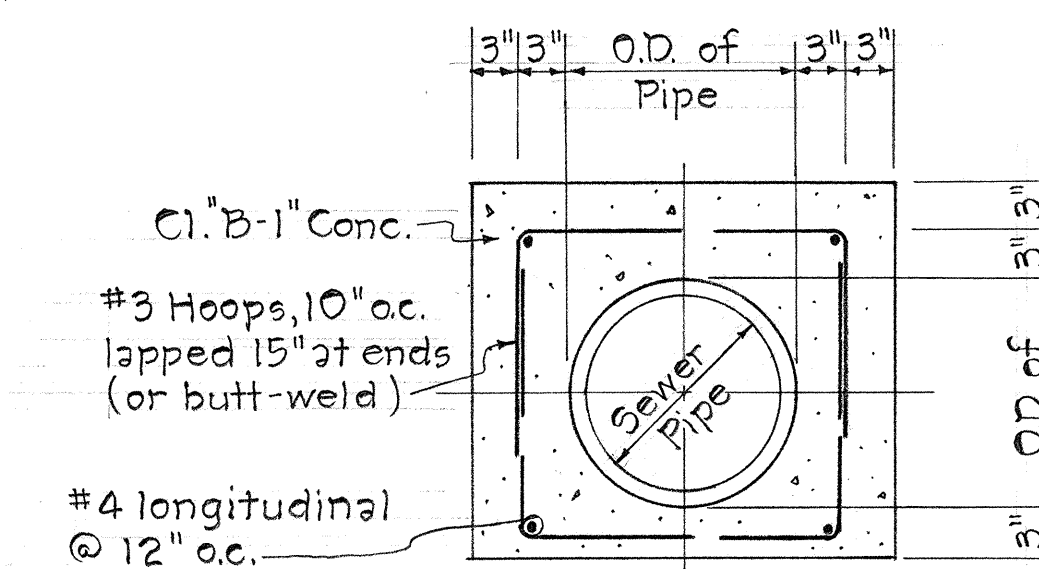
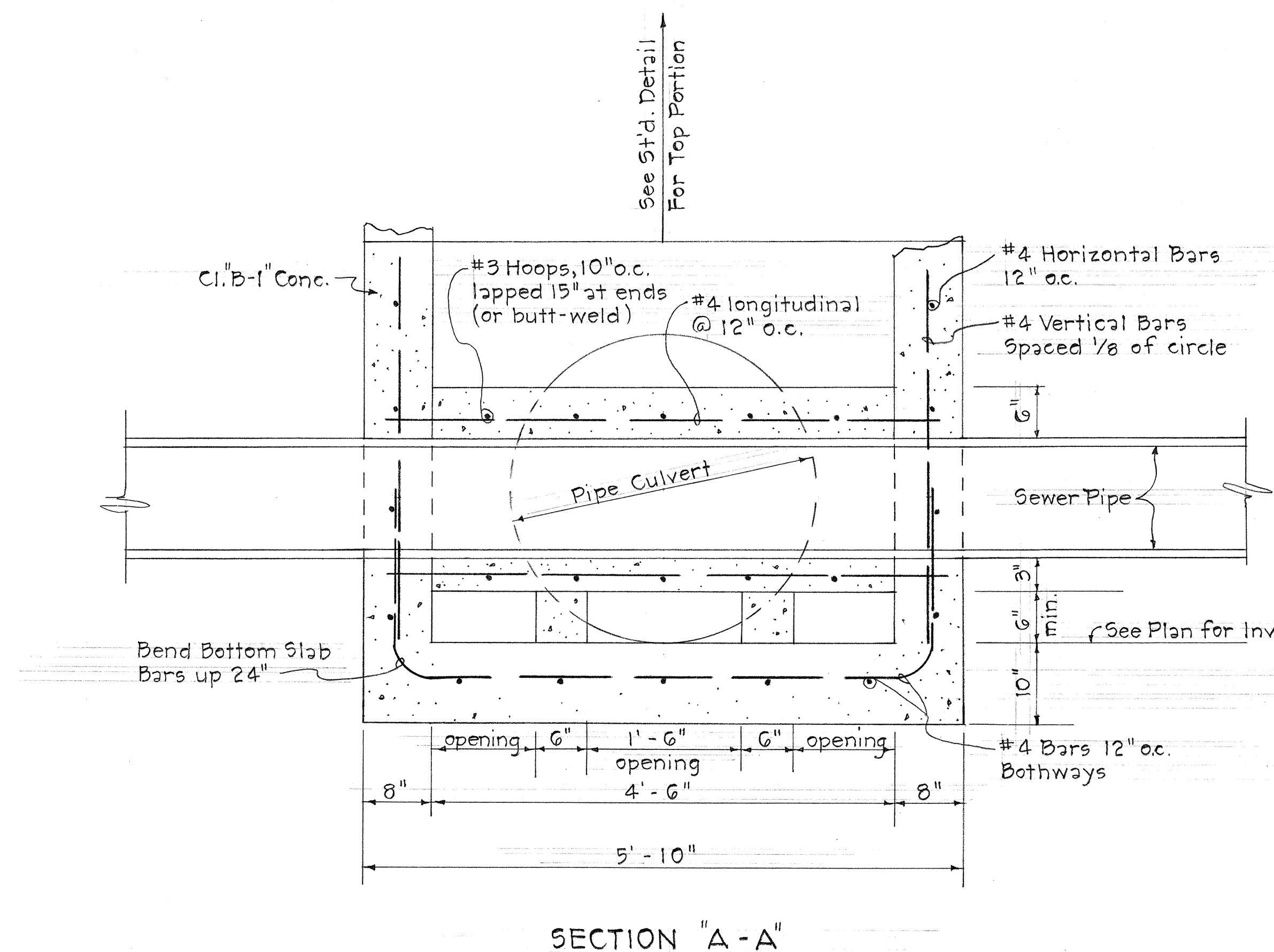
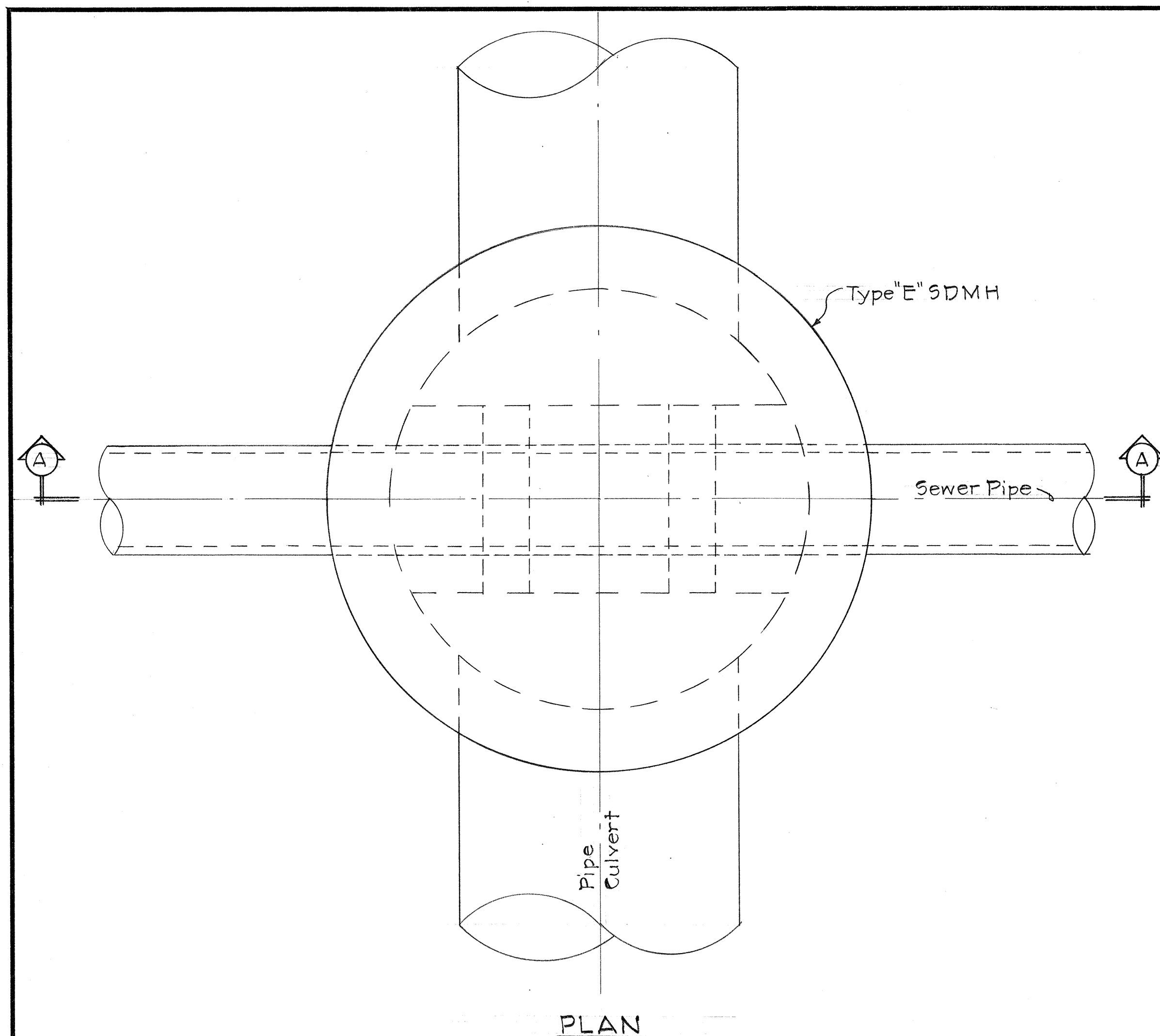
Revised: Dec. 6, 1967
Revised: April 25, 1968

All the quantities shown are original theoretical quantities. For actual quantities, refer to project ledger and/or computation book.

(NOT A PART OF CONTRACT DRAWINGS)

CO 44 44 113

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31) Unit 2	1967	445-1	217

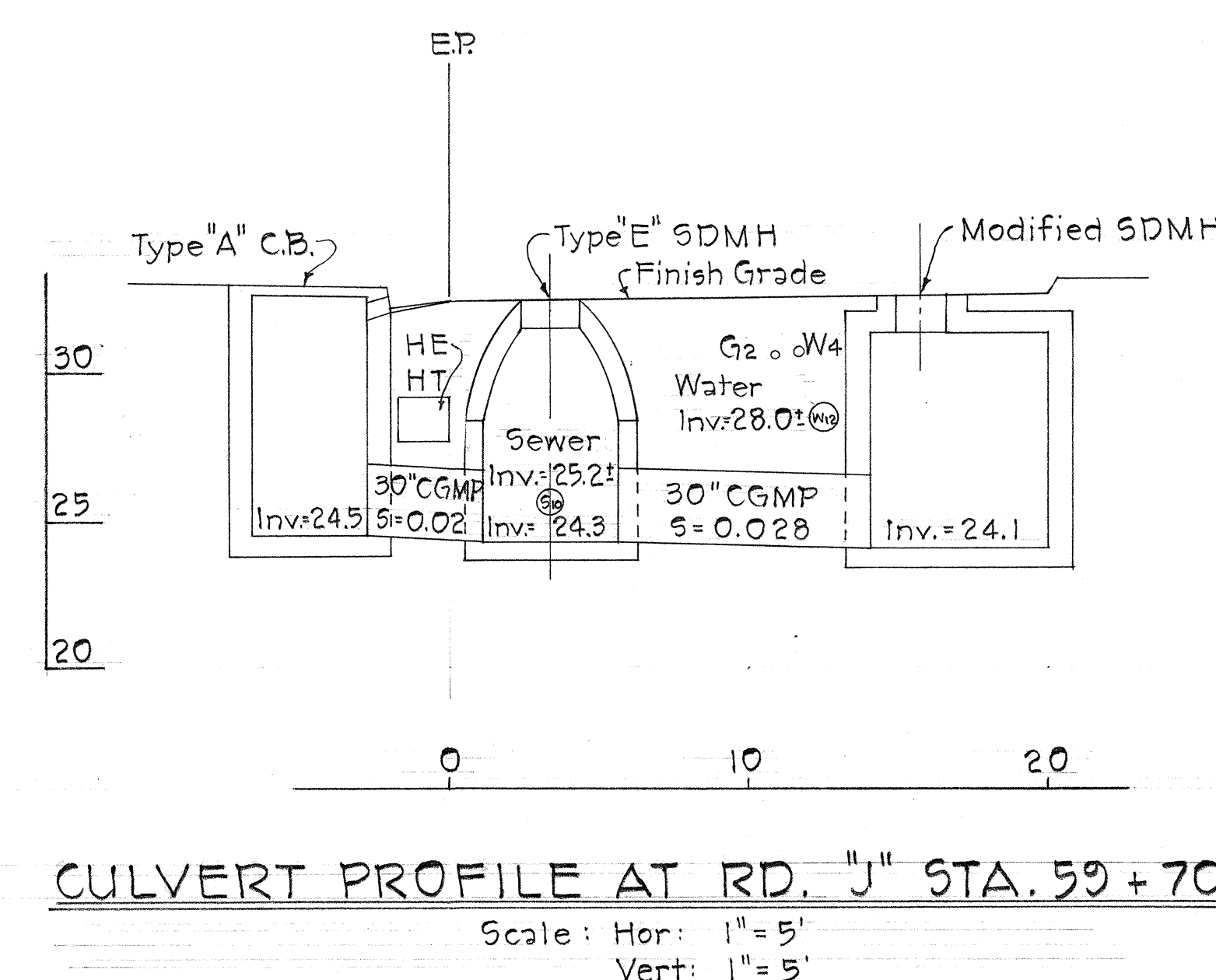
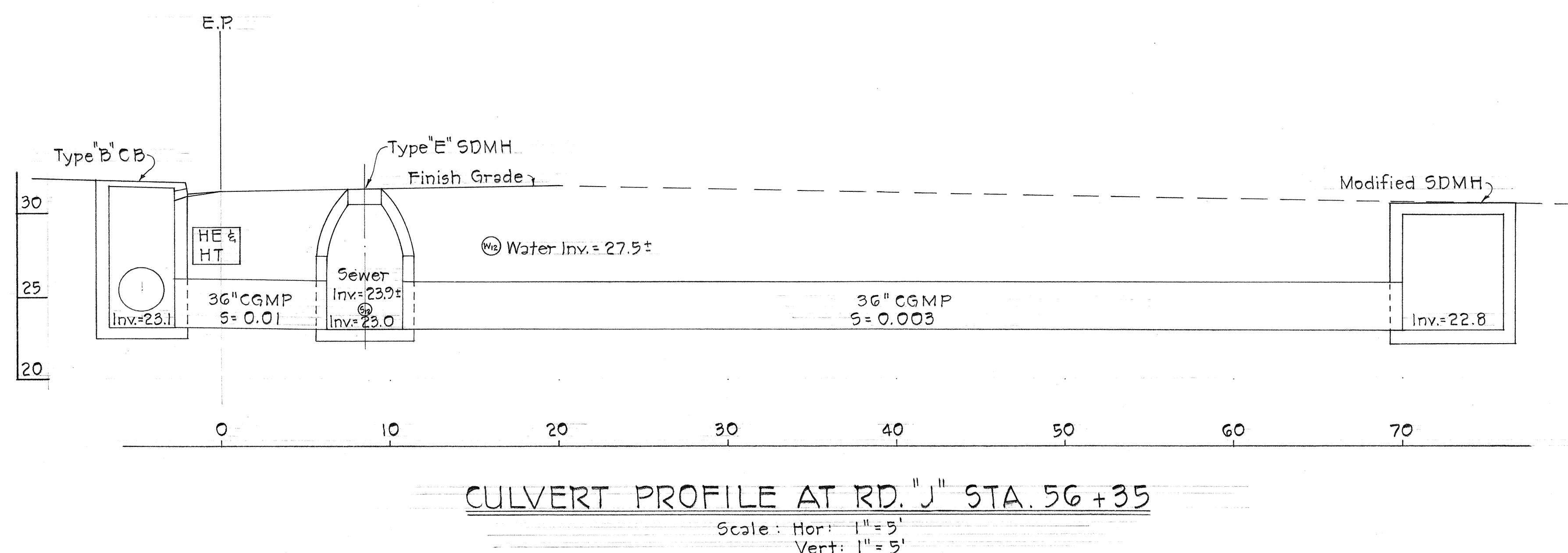


DETAIL OF SEWER LINE THRU S.D.M.H.
Scale: 1" = 1'-0"

* APPROVED:

W. H. H. H.
SEWER SYSTEM DIRECTOR, DIV. OF SEWERS DATE 7/24/68

* Approval is for Sewer Design Only.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
AND
CULVERT PROFILES
INTERSTATE ROUTE H-1
(Victoria St. to Keesumoku St.)
FAI Proj. No. I-HI-1(31), Unit 2
Scale: As Shown Date: July, 1968
SHEET No. OF SHEETS

445-1