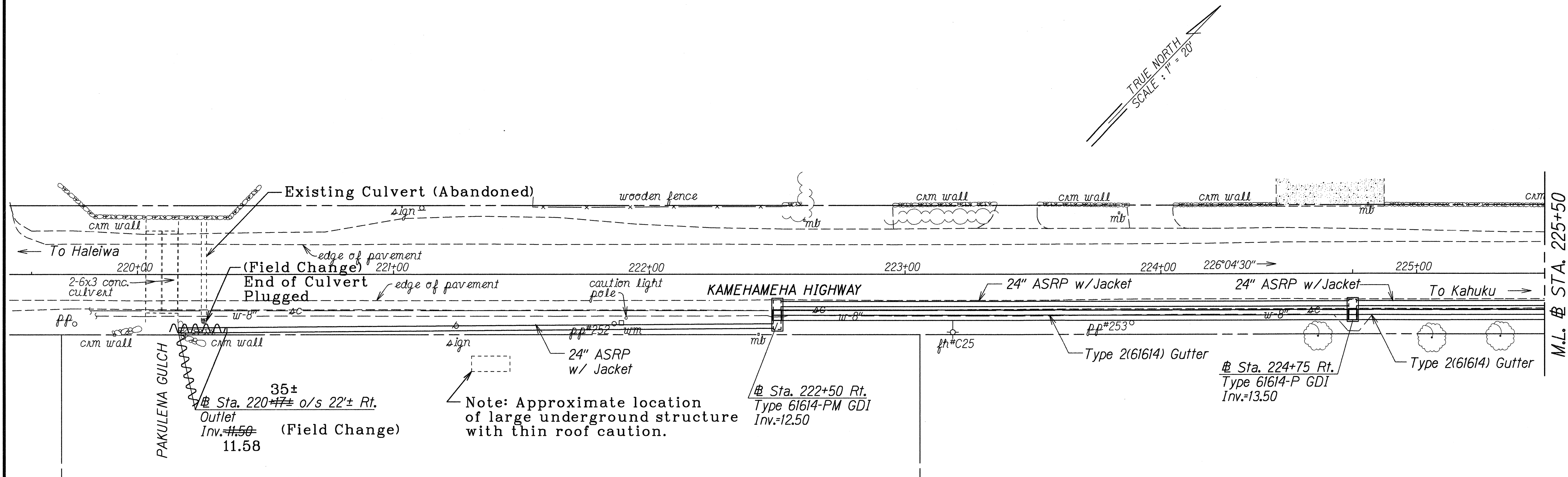


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-1(35)	1996	5	40



DRAINAGE NOTES

1. The Contractor shall verify the locations of all existing utilities in the field. Any existing utilities damaged during construction shall be repaired or replaced by the Contractor at his own expense.
2. A.C. Pavement, Aggregate Base Course and Subbase for the gutter shall be paid for under Item No. 609.2614 Gutter, Type 2(61614).
3. The Contractor shall provide safe access to business and residential driveways for motorists, pedestrians and the public at all times during construction.
4. Striping removed by the project work shall be restored to existing conditions and shall be paid under Section 629.
5. Restoration of Pavement, Bus bay paving at # Sta. 232+50 Rt., reconstruction of Outlet CRM Wall, Outlet GRP Abutment; and, Concrete Sidewalk and connection to existing CDI at # Sta. 304+38 o/s 46± Lt. shall not be paid for separately, but shall be considered incidental to the various Contract Items.
6. Reinforced Concrete Jacket shall not be measured for payment, but shall be incidental to ASRP under Item No. 603.9004 or 603.9006.
7. Type 2(1211218) Gutter shall be paid for under Item No. 609.2614, Type 2(61614) Gutter.
8. The Concrete Gutter shall be tested for continuous flow for each completed section from the high point to the inlet structure or inlet to inlet. Any ponding in the gutter shall be corrected by the Contractor at his expense.

Sta. 220+17± o/s 22± Rt.
Reconstruct: Outlet CRM Wall
Install: 24" ASRP, Sht. "t"=0.105" w/ Jacket
(Cut pipe flush with CRM Wall)
Estimated Quantities
Structure Exc. = 256 C.Y.
24" Culvert = 232 L.F.

Sta. 222+50 Rt.
Construct: Type 61614-PM GDI
(For Details see Sht. No. H19)
Install: 24" ASRP, Sht. "t"=0.105" w/ Jacket
Estimated Quantities
Structure Exc. = 205 C.Y.
24" Culvert = 222 L.F.
Type 61614-PM GDI (3.00 ft. to 3.99 ft.) = 1 Ea.

Sta. 222+50 Rt. to # Sta. 225+50 Rt.
Construct: Gutter, Type 2(61614)
(For Detail of Case I see Sht. No. H18)

Estimated Quantities
Type 2(61614) Gutter = 157 L.F.

Sta. 224+75 Rt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Install: 24" ASRP, Sht. "t"=0.105" w/ Jacket
Estimated Quantities
Structure Exc. = 164 C.Y.
24" Culvert = 222 L.F.
Type 61614-P GDI (3.00 ft. to 3.99 ft.) = 1 Ea.

SURVEY PLOTTED BY	DATE
DRAWN BY A. Kama	9/94
DESIGNED BY E. Ichinaka	4/95
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
CHITRAL	
AMPHILOG	

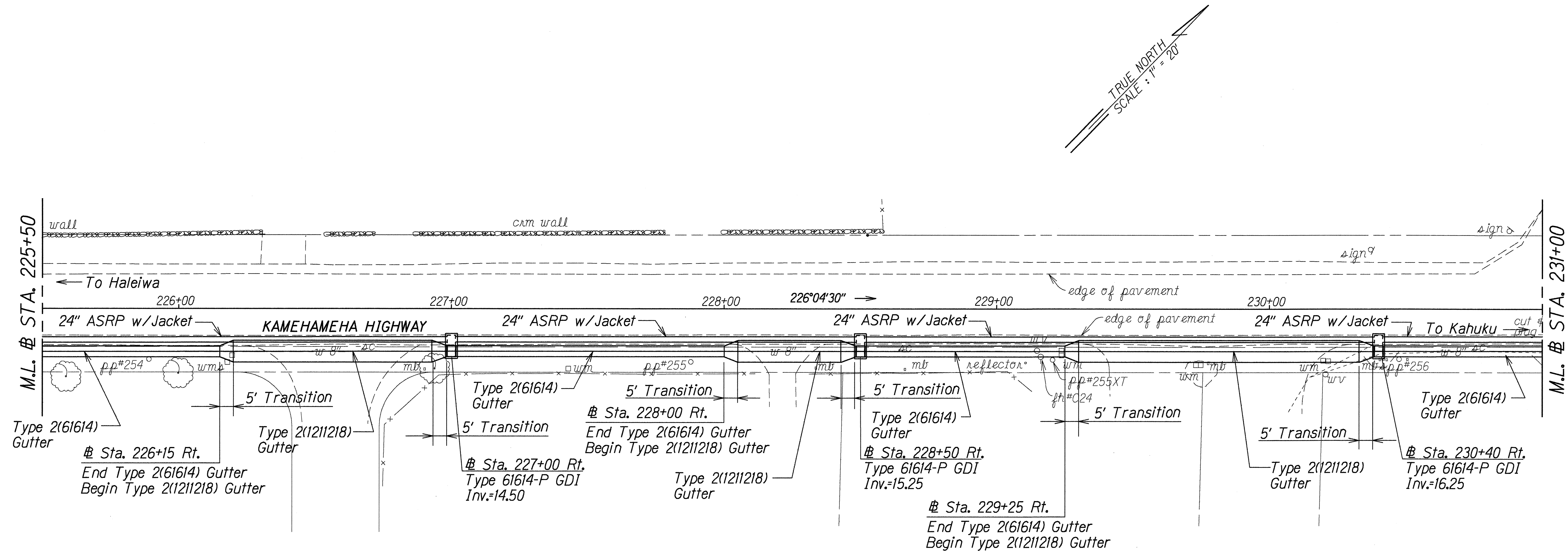
LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN
KAMEHAMEHA HWY. DRAINAGE IMP.
Vic. of Sunset Beach Elementary School
Fed. Aid Proj No. STP-083-1(35)
Scale: 1"=20'
Date: Feb. 1996

SHEET No. H1 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-1(35)	1996	6	40



Sta. 227+00 Rt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Install: 24" ASRP, Sht. "t"=0.105"

Estimated Quantities
Structure Exc. = 108 C.Y.
24" Culvert = 146 L.F.
Type 61614-P GDI
(2.00 ft. to 2.99 ft.) = 1 Ea.

Sta. 228+50 Rt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Install: 24" ASRP, Sht. "t"=0.105"

Estimated Quantities
Structure Exc. = 155 C.Y.
24" Culvert = 186 L.F.
Type 61614-P GDI
(3.00 ft. to 3.99 ft.) = 1 Ea.

Sta. 230+40 Rt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Install: 24" ASRP, Sht. "t"=0.105"

Estimated Quantities
Structure Exc. = 144 C.Y.
24" Culvert = 142 L.F.
Type 61614-P GDI
(3.00 ft. to 3.99 ft.) = 1 Ea.

Sta. 225+50 Rt. to # Sta. 231+00 Rt.
Construct: Gutter, Type 2(61614) # Gutter, Type 2(1211218)
(For Detail of Case I see Sht. No. H18)

Estimated Quantities
Type 2(61614) Gutter = 295 L.F.

SURVEY PLOTTED BY	DATE
DRAWN BY A. MULLA	2/93
DESIGNED BY E. Lohrasvadi	4/95
QUANTITIES BY	
CHECKED BY	

ORIGINAL PLAN	NOTE BOOK
dhil	dhil
dhil	dhil

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

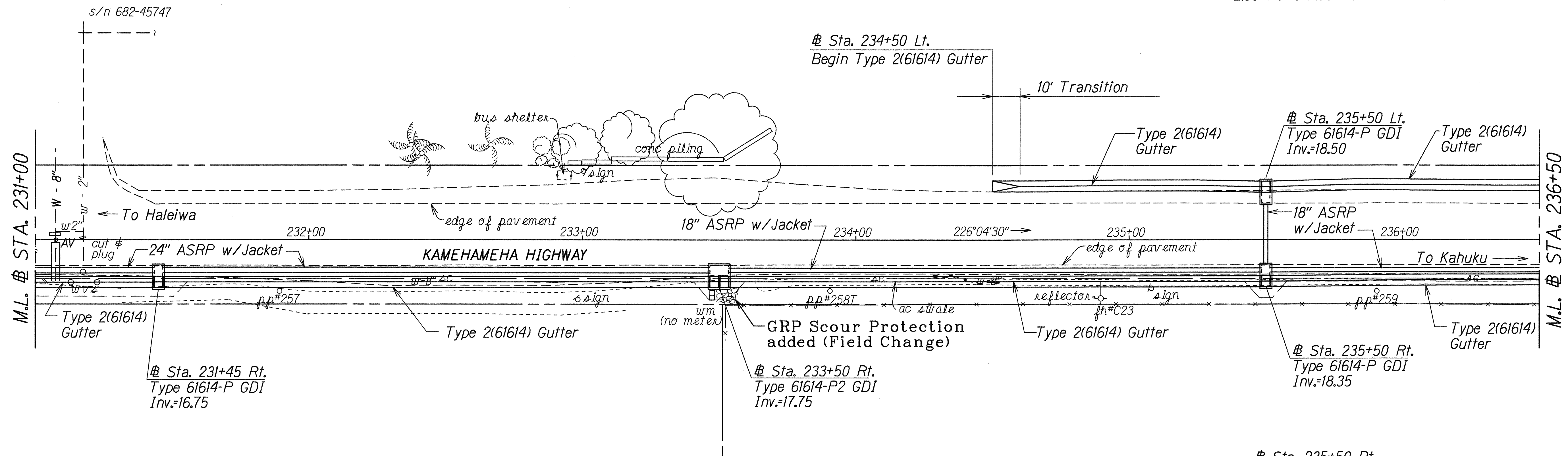
DRAINAGE PLAN

KAMEHAMEHA HWY. DRAINAGE IMP.
Vic. of Sunset Beach Elementary School
Fed. Aid Project No. STP-083-1(35)

Scale: 1"=20' Date: Feb, 1996

SHEET No. H2 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-1(35)	1996	7	40



Sta. 231+45 Rt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Install: 24" ASRP, Sht. "t"=0.105"
w/ Jacket
Estimated Quantities
Structure Exc. = 205 C.Y.
24" Culvert = 202 L.F.
Type 61614-P GDI
(3.00 ft. to 3.99 ft.) = 1 Ea.

Sta. 233+50 Rt.
Construct: Type 61614-P2 GDI
(For Details see Sht. No. H20)
Install: 18" ASRP, Sht. "t"=0.105"
w/ Jacket
Estimated Quantities
Structure Exc. = 147 C.Y.
18" Culvert = 196 L.F.
Type 61614-P2 GDI
(3.00 ft. to 3.99 ft.) = 1 Ea.

Sta. 235+50 Rt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Install: 18" ASRP, Sht. "t"=0.105"
w/ Jacket
Estimated Quantities
Structure Exc. = 164 C.Y.
18" Culvert = 246 L.F.
Type 61614-P GDI
(2.00 ft. to 2.99 ft.) = 1 Ea.

Sta. 231+00 Rt. to # Sta. 236+50 Rt.
Construct: Gutter, Type 2(61614) # Gutter, Type 2(1211218)
(For Detail of Case 1 see Sht. No. H18)
Estimated Quantities
Type 2(61614) Gutter = 550 L.F.

Sta. 234+50 Lt. to # Sta. 236+50 Lt.
Construct: Gutter, Type 2(61614)
(For Detail of Case 1 see Sht. No. H18)
Estimated Quantities
Type 2(61614) Gutter = 200 L.F.

Sta. 235+50 Lt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Install: 18" ASRP, Sht. "t"=0.105"
w/ Jacket
Estimated Quantities
Structure Exc. = 23 C.Y.
18" Culvert = 30 L.F.
Type 61614-P GDI
(2.00 ft. to 2.99 ft.) = 1 Ea.

SURVEY PLOTTED BY	DATE
DRAWN BY A. Waiwala	2/94
DESIGNED BY E. Ichinaka	2/95
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

KAMEHAMEHA HWY. DRAINAGE IMP.
Vic. of Sunset Beach Elementary School
Fed. Aid Project No. STP-083-1(35)

Scale: 1"=20' Date: Feb. 1996

SHEET No. H3 OF 24 SHEETS

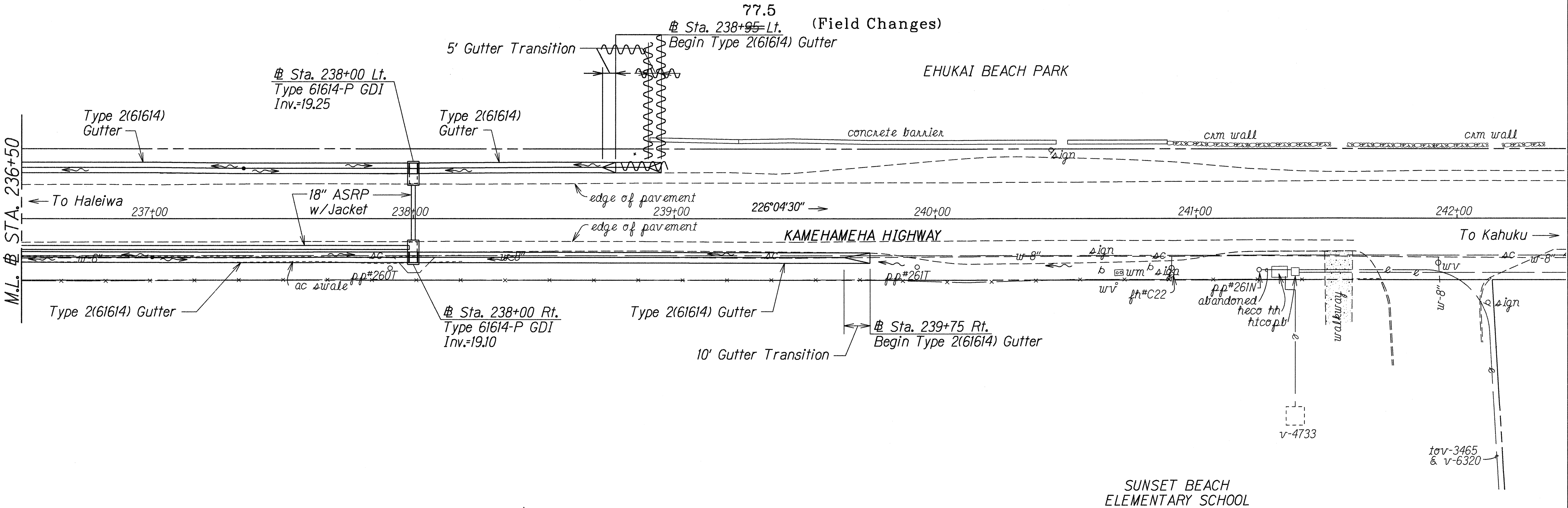
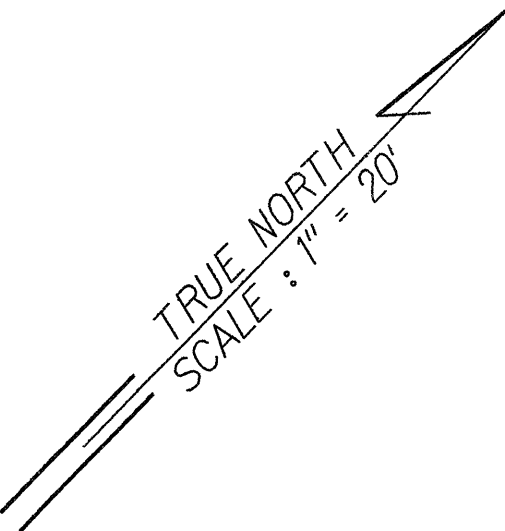
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-1(35)	1996	8	40

Sta. 236+50 Lt. to # Sta. 238+95 Lt.
Construct: Gutter, Type 2(61614)
(For Detail of Case I see Sht. No. H18)

Estimated Quantities
Type 2(61614) Gutter = 245 L.F.

Sta. 238+00 Lt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Install: 18" ASRP, Sht. "I"=0.105"
w/ Jacket

Estimated Quantities
Structure Exc. = 21 C.Y.
18" Culvert = 32 L.F.
Type 61614-P GDI
(2.00 ft. to 2.99 ft.) = 1 Ea.



Sta. 236+50 Rt. to # Sta. 239+75 Rt.
Construct: Gutter, Type 2(61614)
(For Detail of Case I see Sht. No. H18)

Estimated Quantities
Type 2(61614) Gutter = 325 L.F.

Sta. 238+00 Rt.
Construct: Type 61614-P GDI
(For Details see Sht. No. H22)
Estimated Quantities
Type 61614-P GDI
(2.00 ft. to 2.99 ft.) = 1 Ea.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	9/94
	NOTED BY	
	CHECKED BY	

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

KAMEHAMEHA HWY. DRAINAGE IMP.
Vic. of Sunset Beach Elementary School
Fed. Aid Project No. STP-083-1(35)

Scale: 1"=20' Date: Feb. 1996

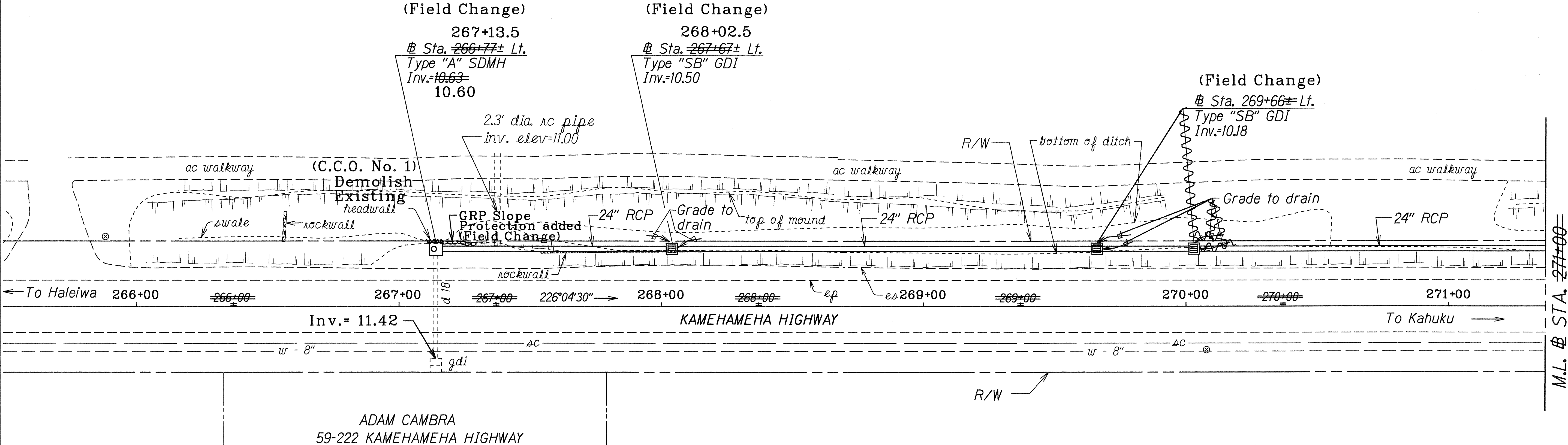
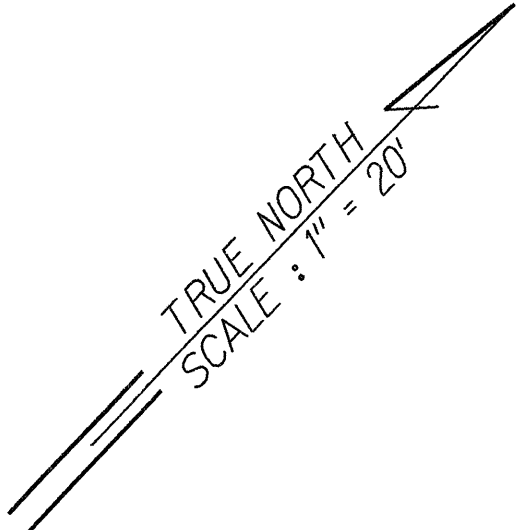
SHEET No. H4 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-1(35)	1996	9	40

267+13.5
Sta. ~~266+77~~ Lt.
Construct: Type "A" SDMH
with drain opening. ← (C.C.O. No. 1)
(For Details see Sht. No. H20A)
Install: 24" RCP, Cl. III
Estimated Quantities
Structure Exc. = 100
Bed Course Mat'l. = 18 C.Y.
24" Culvert = 86 L.F.
Type "A" SDMH 85
(4.00 ft. to 4.99 ft.) = 1 Ea.

268+02.5
Sta. ~~267+67~~ Lt.
Construct: Type "SB" GDI
(For Details see Sht. No. H24)
Install: 24" RCP, Cl. III
Estimated Quantities
Structure Exc. = 216
Bed Course Mat'l. = 33 C.Y.
24" Culvert = 196 L.F.
Type "SB" GDI 160
(3.00 ft. to 3.99 ft.) = 1 Ea.

Sta. 269+66 Lt.
Construct: Type "SB" GDI
(For Details see Sht. No. H24)
Install: 24" RCP, Cl. III
Estimated Quantities
Structure Exc. = 585
Bed Course Mat'l. = 61 C.Y.
24" Culvert = 238 L.F.
Type "SB" GDI 297
(6.00 ft. to 6.99 ft.) = 1 Ea.



SURVEY PLOTTED BY	DATE
DRAWN BY A. Nomaia	3/95
NOTED BY E. Ichikawa	4/95
QUANTITIES BY	
CHECKED BY	

ORIGINAL PLAN	
NOTE BOOK	
CHAL	
4/95/05.dgn	

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

ADD THIS SHT.	
7/15/96	Added note to indicate Type "A" SDMH is to be modified.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DRAINAGE PLAN	
KAMEHAMEHA HWY. DRAINAGE IMP. Vic. of Sunset Beach Elementary School Fed. Aid Project No. STP-083-1(35)	
Scale: 1"=20'	Date: Feb. 1996
SHEET No. H5 OF 24 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-K(35)	1996	10	40

272+67

Sta. ~~272+00~~ Lt.

Construct: Type "SB" GDI
(For Details see Sht. No. H24)
Install: 24" RCP, Cl. III

Estimated Quantities

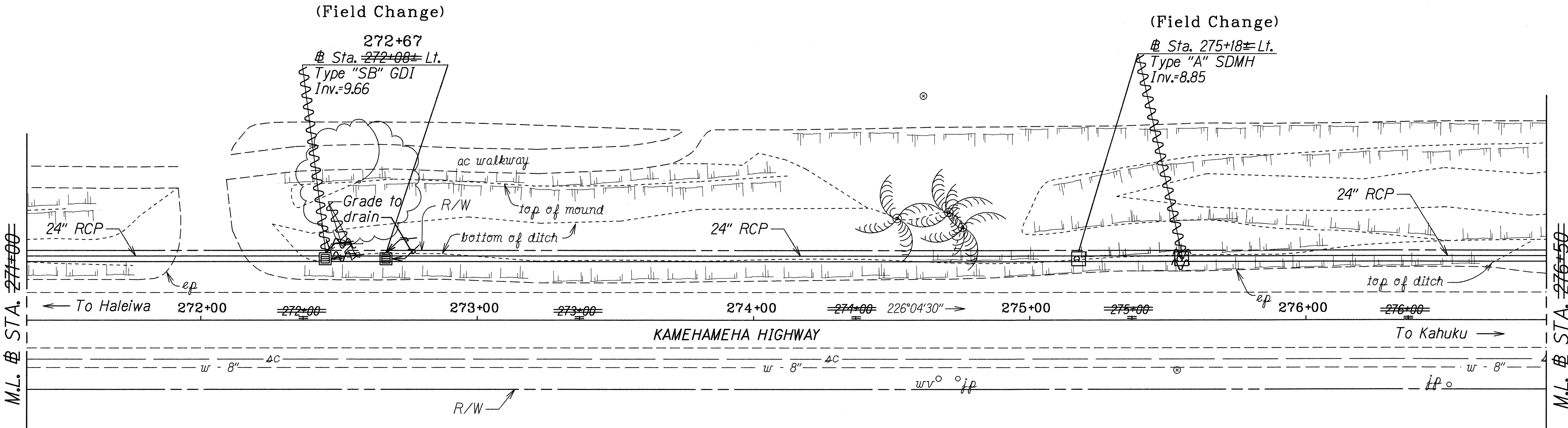
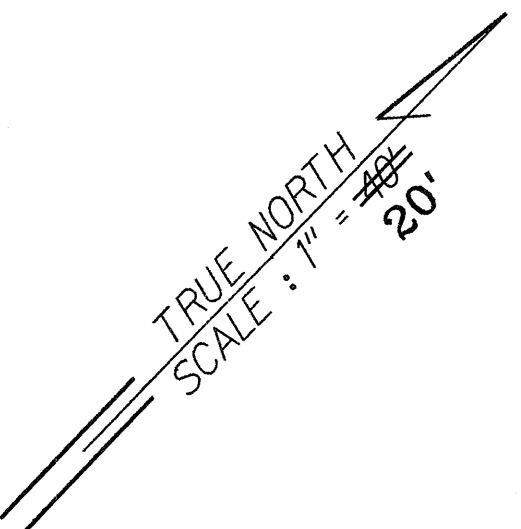
Structure Exc. = ~~82~~ 663 C.Y.
Bed Course Mat'l. = ~~51~~ 63 C.Y.
24" Culvert = ~~306~~ L.F.
Type "SB" GDI = 247
(8.00 ft. to 8.99 ft.) = 1 Ea.

Sta. 275+18 Lt.

Construct: Type "A" SDMH
Install: 24" RCP, Cl. III

Estimated Quantities

Structure Exc. = 1093 C.Y.
Bed Course Mat'l. = 60 C.Y.
24" Culvert = 294 L.F.
Type "A" SDMH
(15.00 ft. to 15.99 ft.) = 1 Ea.



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY A. Naniwa	3/95
QUANTITIES BY	DESIGNED BY E. Ishida/Sudo	
CHECKED BY		

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

KAMEHAMEHA HWY. DRAINAGE IMP.
Vic. Of Sunset Beach Elementary School
Fed. Aid Project No. STP-083-K(35)

Scale: 1"=20' Date: Feb. 1996

SHEET No. H6 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-1(35)	1996	11	40

281+70

Sta. 278+16± Lt. to # Sta. 281+37± Lt.

Construct: Type "A" SDMH

Reconstruct: Outlet GRP Abutment

Concrete Walkway

Install: 24" RCP, CI. III

(Cut pipe flush with GRP Abutment)

Estimated Quantities

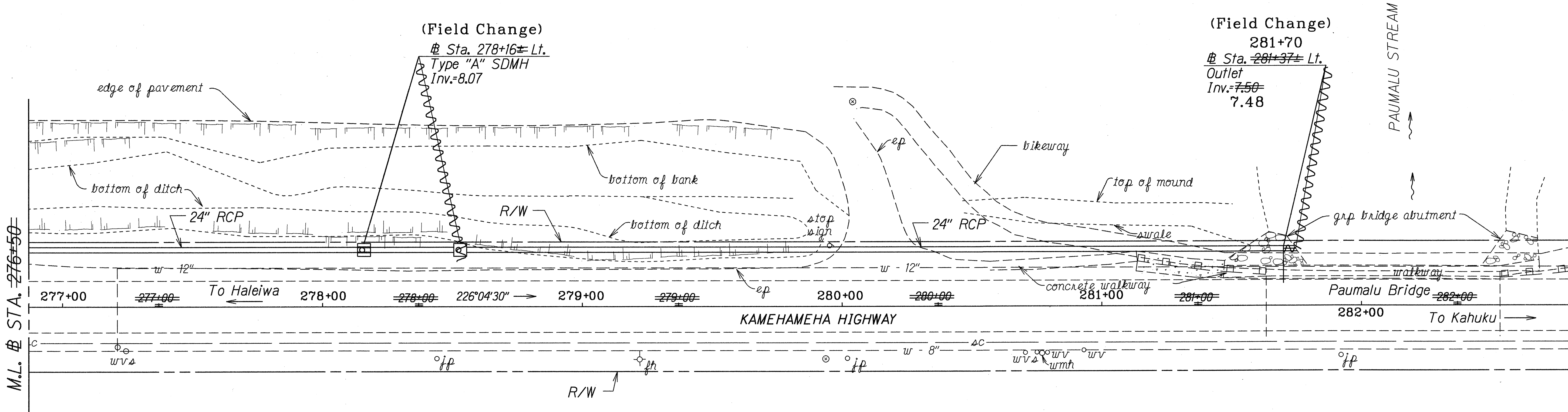
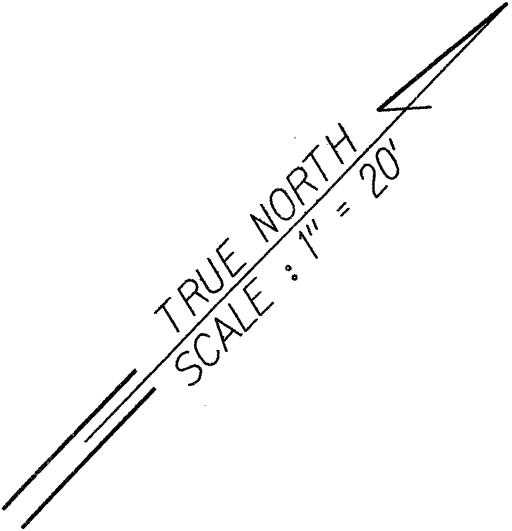
Structure Exc. = 972 C.Y.

Bed Course Mat'l. = 70-64 C.Y.

24" Culvert = 314 L.F.

Type "A" SDMH 344

(14.00 ft. to 14.99 ft.) = 1 Ea.



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY A. Naniwa	3/95
CHIEF ENGINEER	DESIGNED BY E. Lohrasvab	
CHECKED BY	QUANTITIES BY	

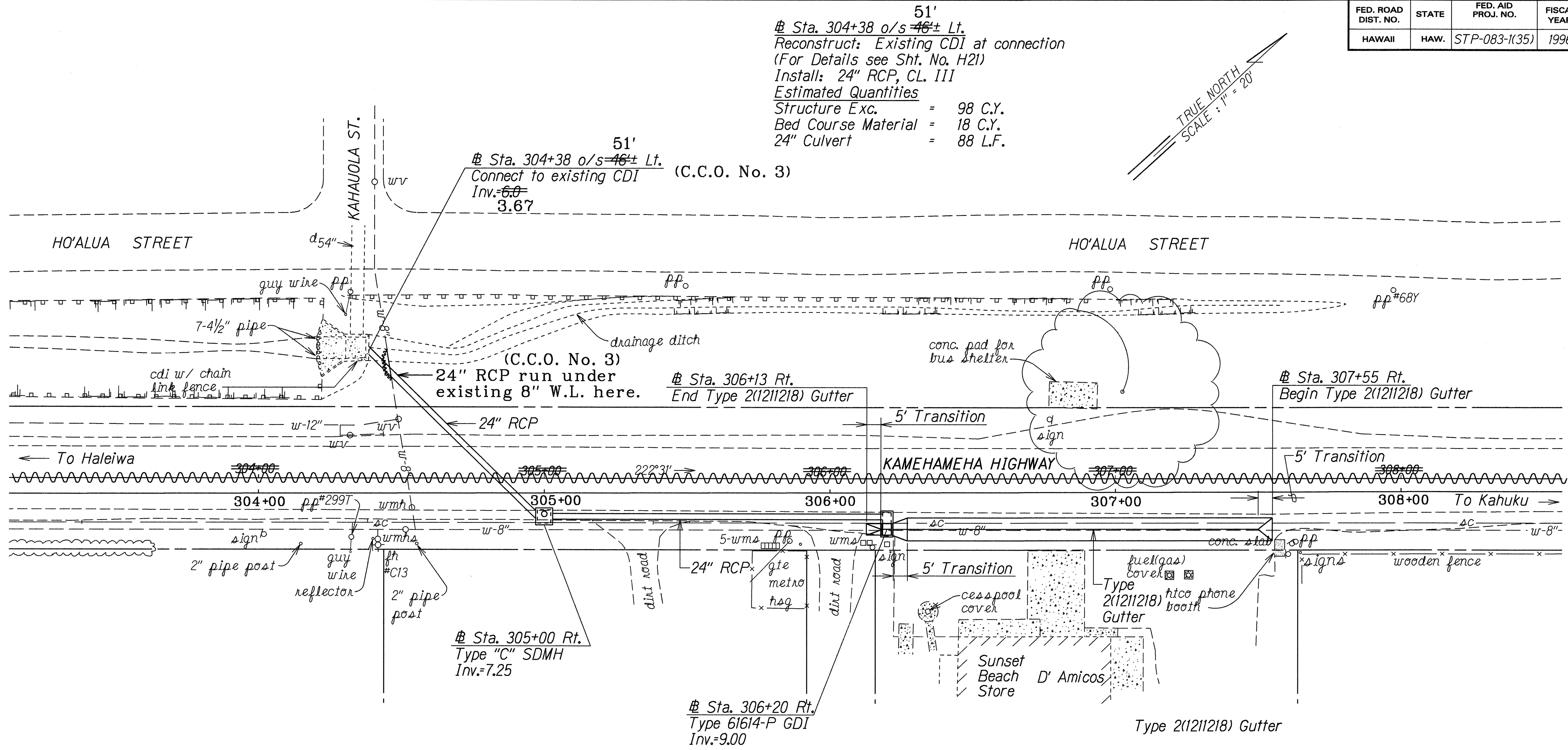
LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN
KAMEHAMEHA HWY. DRAINAGE IMP.
Vic. of Sunset Beach Elementary School
Fed. Aid Project No. STP-083-1(35)
Scale: 1"=20' Date: Feb. 1996

SHEET No. H7 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-1(35)	1996	12	40



Sta. 305+00 Rt.
 Construct: Type "C" SDMH
 Install: 24" RCP, CL. III
 Estimated Quantities
 Structure Exc. = 134 C.Y.
 Bed Course Material = 24 C.Y.
 24" Culvert = 116 L.F.
 Type "C" SDMH
 (6.00 ft. to 6.99 ft.) = 1 Ea.

Sta. 306+13 Rt. to # Sta. 307+55 Rt.
 Construct: Gutter, Type 2(12/12/18)
 (For Detail of Case II see Sht. No. H19)
 Estimated Quantities
 Type 2(12/12/18) Gutter = 142 L.F.

Sta. 306+20 Rt.
 Construct: Type 61614-P GDI
 (For Details see Sht. No. H22)
 Estimated Quantities
 Type 61614-P GDI
 (5.00 ft. to 5.99 ft.) = 1 Ea.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY A. Manu'a	3/24
QUANTITIES BY	TRACED BY E. Ichirotsuka	4/25
CHECKED BY		

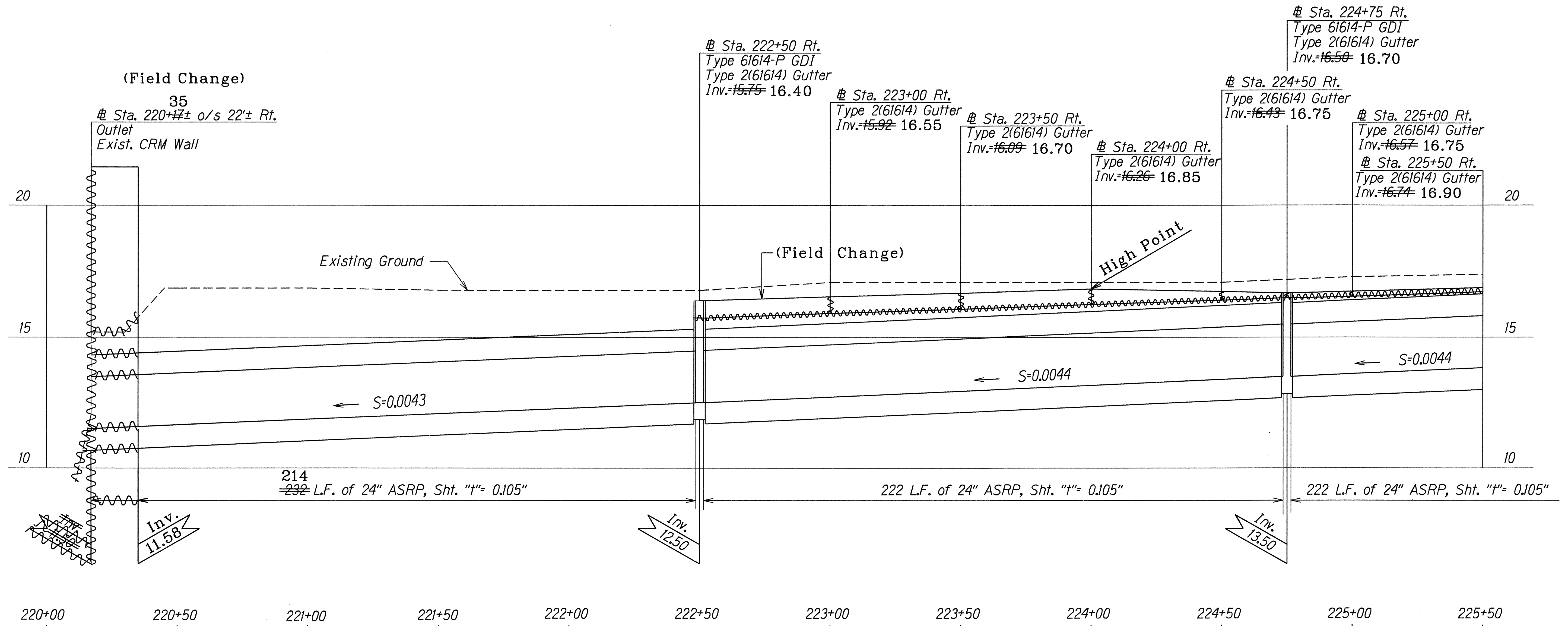
LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN
KAMEHAMEHA HWY. DRAINAGE IMP.
Vic. of Sunset Beach Elementary School
Fed. Aid Project. No. STP-083-1(35)
Scale: 1"=20'
Feb. 1996

SHEET No. H8 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-083-1(35)	1996	13	40



PROFILE ALONG CULVERT # STA. 220+00 RT. TO # STA. 225+50 RT.

Scale: Horiz. 1"=20'
Vert. 1"=2'

LEGEND FOR AS-BUILT POSTINGS

~~~~~ Squiggly line for as-built deletion  
 === Double line for as-built deletion  
 Roadway Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

## DRAINAGE PROFILES

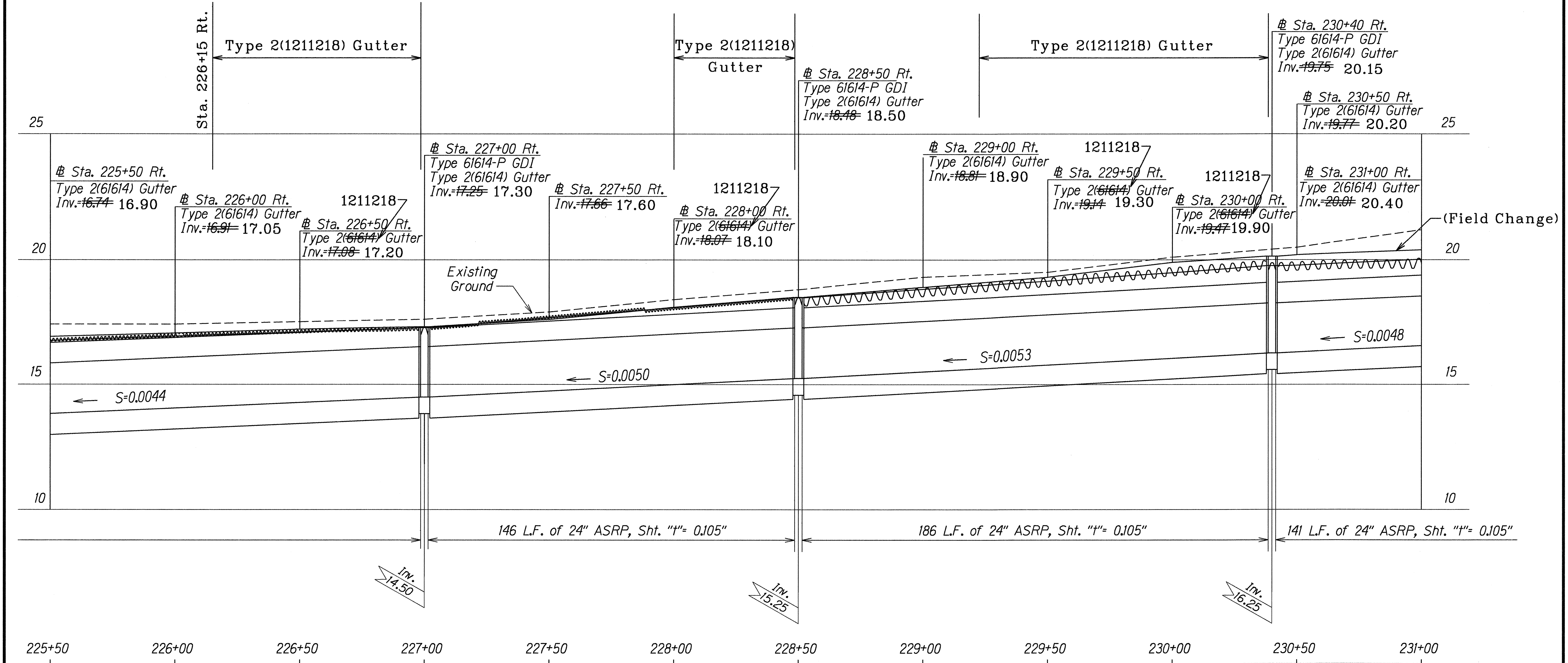
KAMEHAMEHA HWY. DRAINAGE IMP.  
Vic. of Sunset Beach Elementary School  
Fed. Aid Project No. STP-083-1(35)

Scale: As Shown Date: Feb. 1996

SHEET No. H9 OF 24 SHEETS

|               |           |
|---------------|-----------|
| DESIGNED BY   | DATE      |
| PLANNED BY    | Oct. 1994 |
| NOTED BY      |           |
| DESIGNED BY   |           |
| QUANTITIES BY |           |
| CHECKED BY    |           |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 14        | 40           |



PROFILE ALONG  $\phi$  CULVERT  $\#$  STA. 225+50 RT. TO  $\#$  STA. 231+00 RT.  
 Scale: Horiz. 1"=20'  
 Vert. 1"=2'

|             |      |
|-------------|------|
| DESIGNED BY | DATE |
| DRAWN BY    | 1996 |
| CHECKED BY  |      |
| APPROVED BY |      |

| LEGEND FOR AS-BUILT POSTINGS |                                     |
|------------------------------|-------------------------------------|
|                              | Squiggly line for as-built deletion |
|                              | Double line for as-built deletion   |
|                              | Text for as-built posting           |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

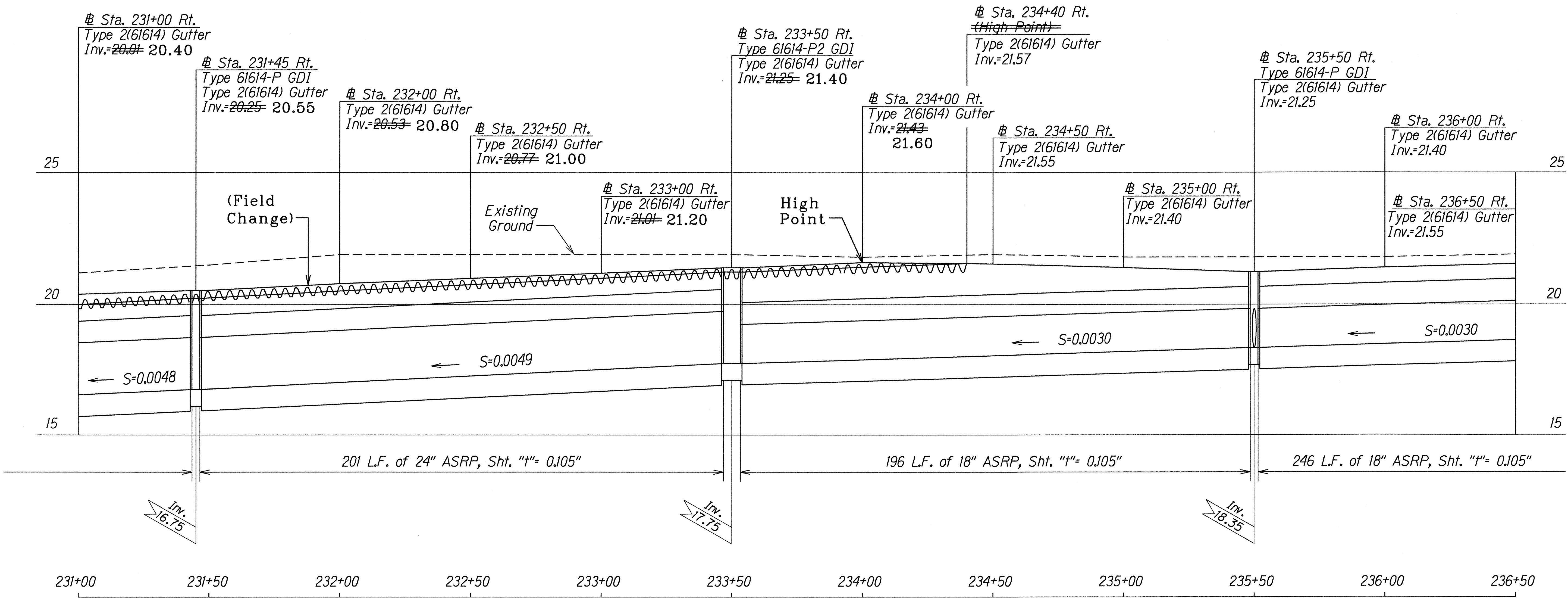
### DRAINAGE PROFILES

KAMEHAMEHA HWY. DRAINAGE IMP.  
 Vic. of Sunset Beach Elementary School  
 Fed. Aid Project No. STP-083-1(35)

Scale: As Shown
Date: Feb. 1996

SHEET No. H10 OF 24 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 15        | 40           |



PROFILE ALONG CULVERT @ STA. 231+00 RT. TO @ STA. 236+50 RT.

Scale: Horiz. 1"=20'  
Vert. 1"=2'

|                                                                 |      |
|-----------------------------------------------------------------|------|
| DESIGNED BY                                                     | DATE |
| DRAWN BY                                                        | 1996 |
| CHECKED BY                                                      |      |
| NOTES                                                           |      |
| 1. All dimensions are in feet and inches.                       |      |
| 2. All dimensions are to the centerline of the culvert.         |      |
| 3. All dimensions are to the centerline of the roadway.         |      |
| 4. All dimensions are to the centerline of the gutter.          |      |
| 5. All dimensions are to the centerline of the existing ground. |      |

| LEGEND FOR AS-BUILT POSTINGS |                                     |
|------------------------------|-------------------------------------|
|                              | Squiggly line for as-built deletion |
|                              | Double line for as-built deletion   |
|                              | Text for as-built posting           |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### DRAINAGE PROFILES

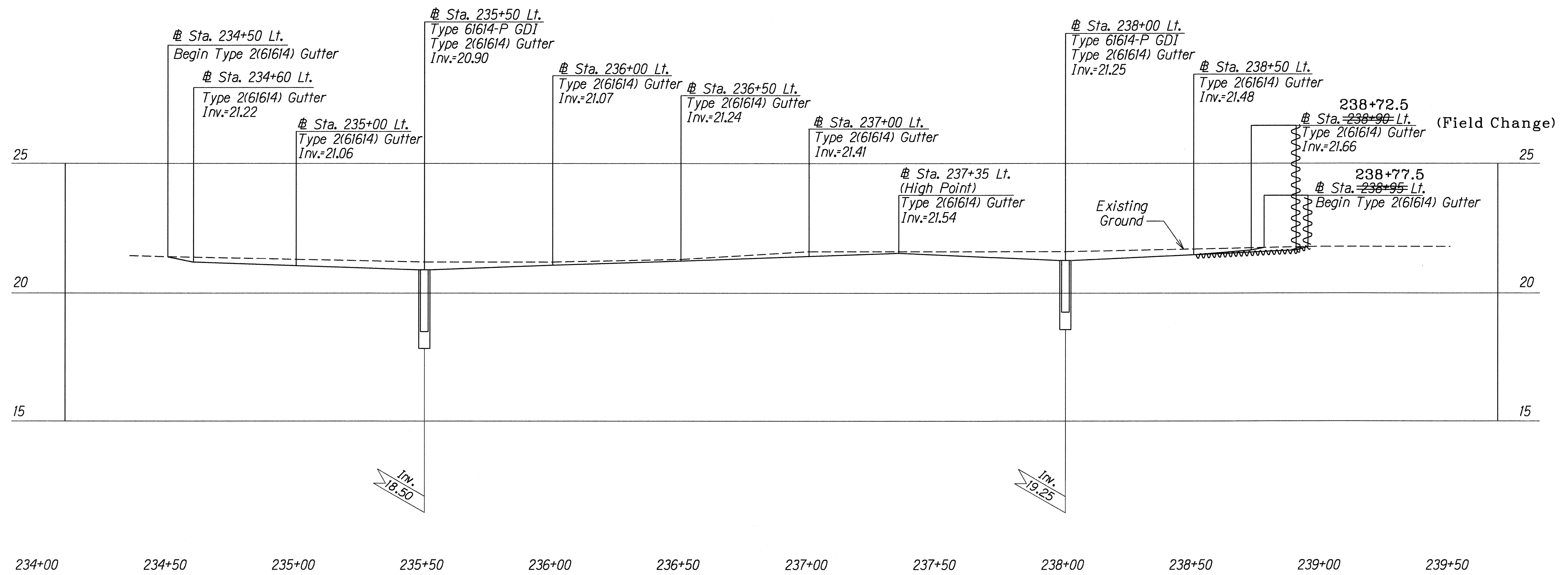
KAMEHAMEHA HWY. DRAINAGE IMP.  
Vic. of Sunset Beach Elementary School  
Fed. Aid Project No. STP-083-1(35)

Scale: As Shown      Date: Feb. 1996

SHEET No. 111 OF 24 SHEETS



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 17        | 40           |



PROFILE ALONG GUTTER # STA. 234+50 LT. TO # STA. 238+95 LT.

Scale: Horiz. 1"=20'  
Vert. 1"=2'

| LEGEND FOR<br>AS-BUILT POSTINGS |                                     |
|---------------------------------|-------------------------------------|
|                                 | Squiggly line for as-built deletion |
|                                 | Double line for as-built deletion   |
| Roadway                         | Text for as-built posting           |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE PROFILES**

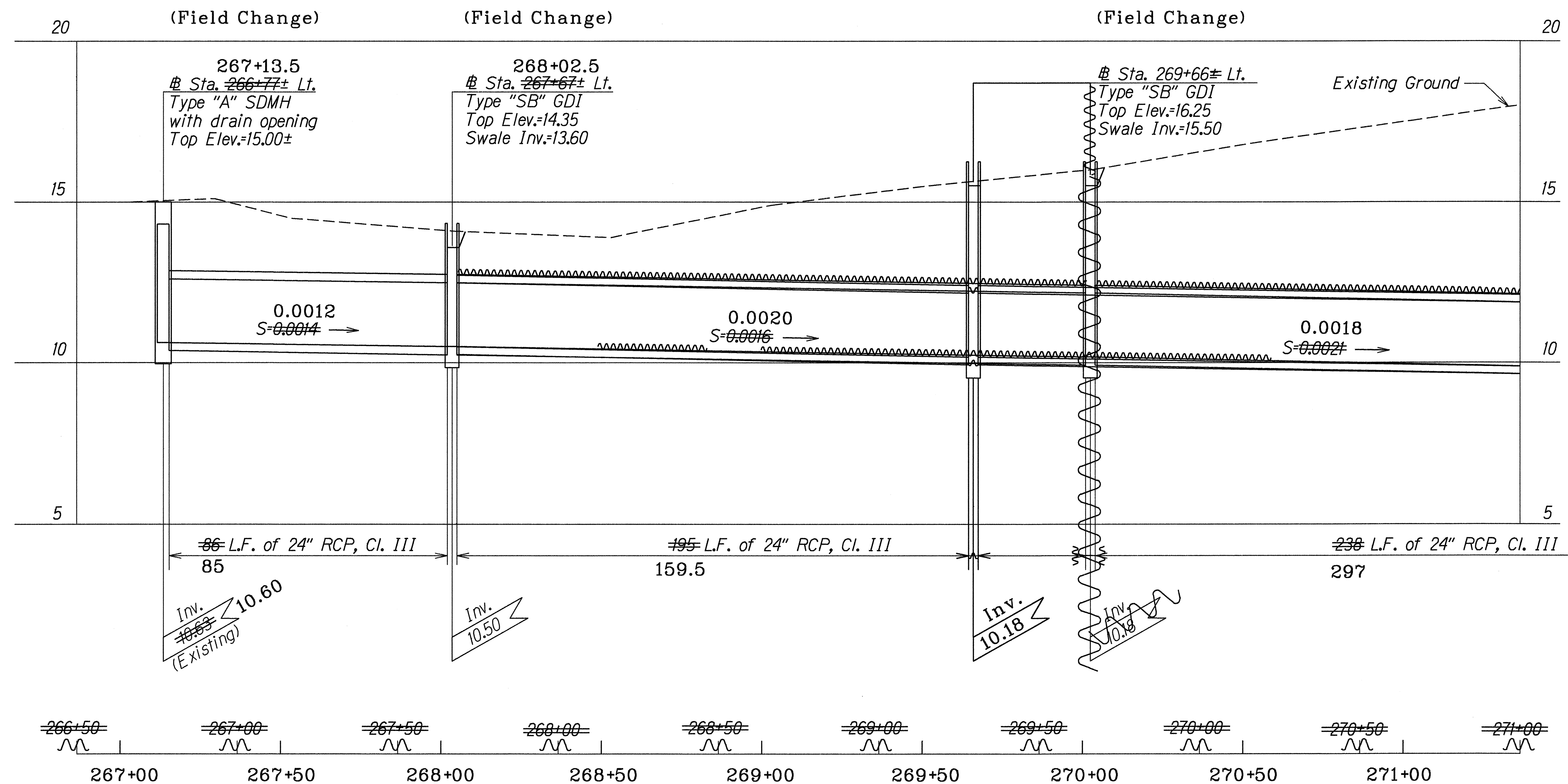
KAMEHAMEHA HWY. DRAINAGE IMP.  
Vic. of Sunset Beach Elementary School  
Fed. Aid Project No. STP-083-1(35)

Scale: As Shown Date: Feb. 1996

SHEET No. H13 OF 24 SHEETS

|               |      |
|---------------|------|
| GENERAL PLAN  | DATE |
| DESIGNED BY   | 1994 |
| TRACED BY     |      |
| NOTED BY      |      |
| QUANTITIES BY |      |
| CHECKED BY    |      |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 18        | 40           |



PROFILE ALONG CULVERT # STA. 266+50 LT. TO # STA. 271+00 LT.

Scale: Horiz. 1"=20'  
Vert. 1"=2'

ADD THIS SHT.

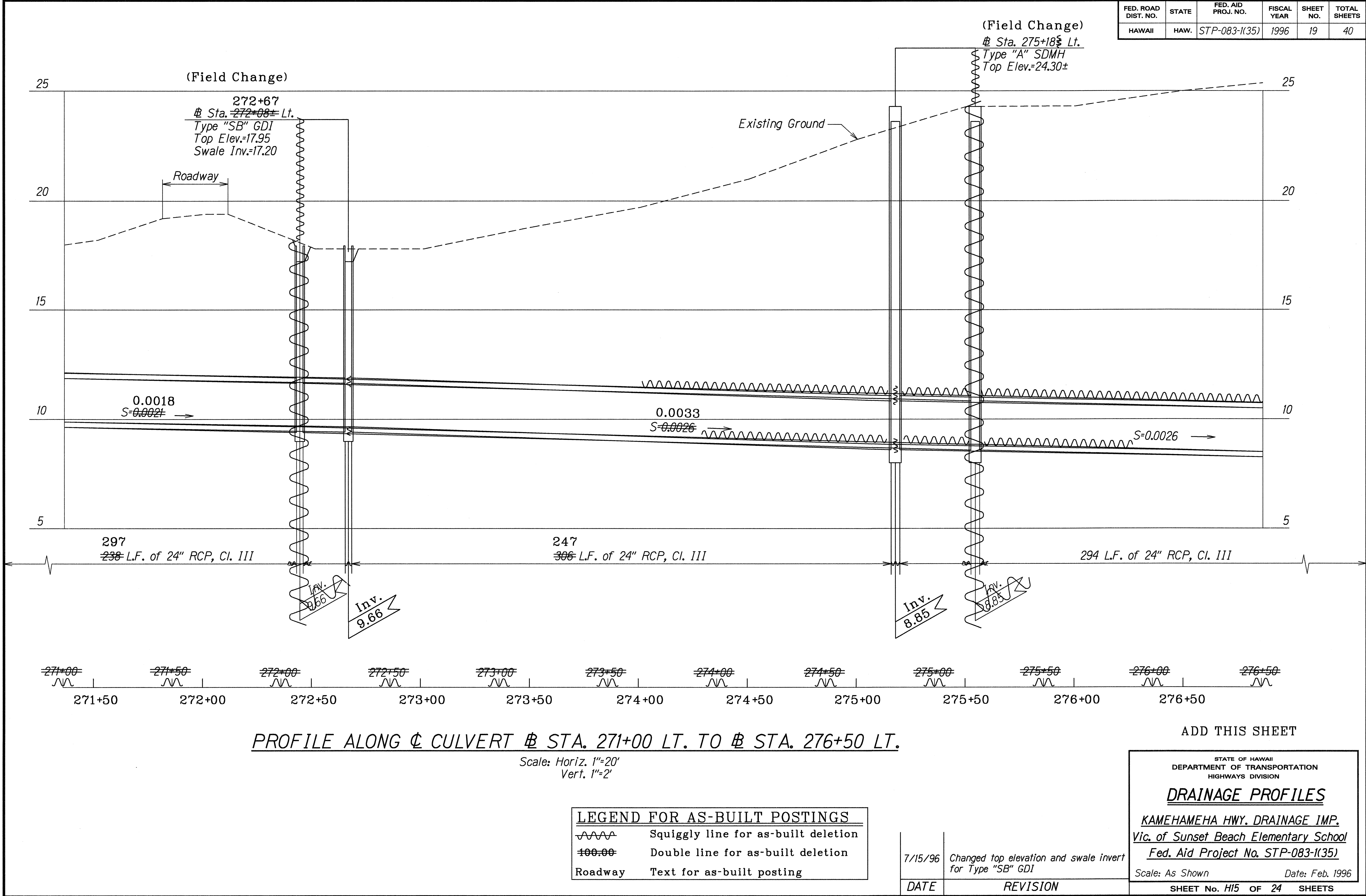
|               |      |
|---------------|------|
| DESIGNED BY   | DATE |
| TRACED BY     | 7/95 |
| NOTED BY      |      |
| QUANTITIES BY |      |
| CHECKED BY    |      |

| LEGEND FOR AS-BUILT POSTINGS |                                     |
|------------------------------|-------------------------------------|
|                              | Squiggly line for as-built deletion |
|                              | Double line for as-built deletion   |
| Roadway                      | Text for as-built posting           |

| 7/15/96                                                                                                                                                                                                                                                                            | Changed top elevation and swale invert for Type "SB" GDI |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| DATE                                                                                                                                                                                                                                                                               | REVISION                                                 |
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION<br><b>DRAINAGE PROFILES</b><br>KAMEHAMEHA HWY. DRAINAGE IMP.<br>Vic. of Sunset Beach Elementary School<br>Fed. Aid Project No. STP-083-1(35)<br>Scale: As Shown Date: Feb. 1996<br>SHEET No. H14 OF 24 SHEETS |                                                          |

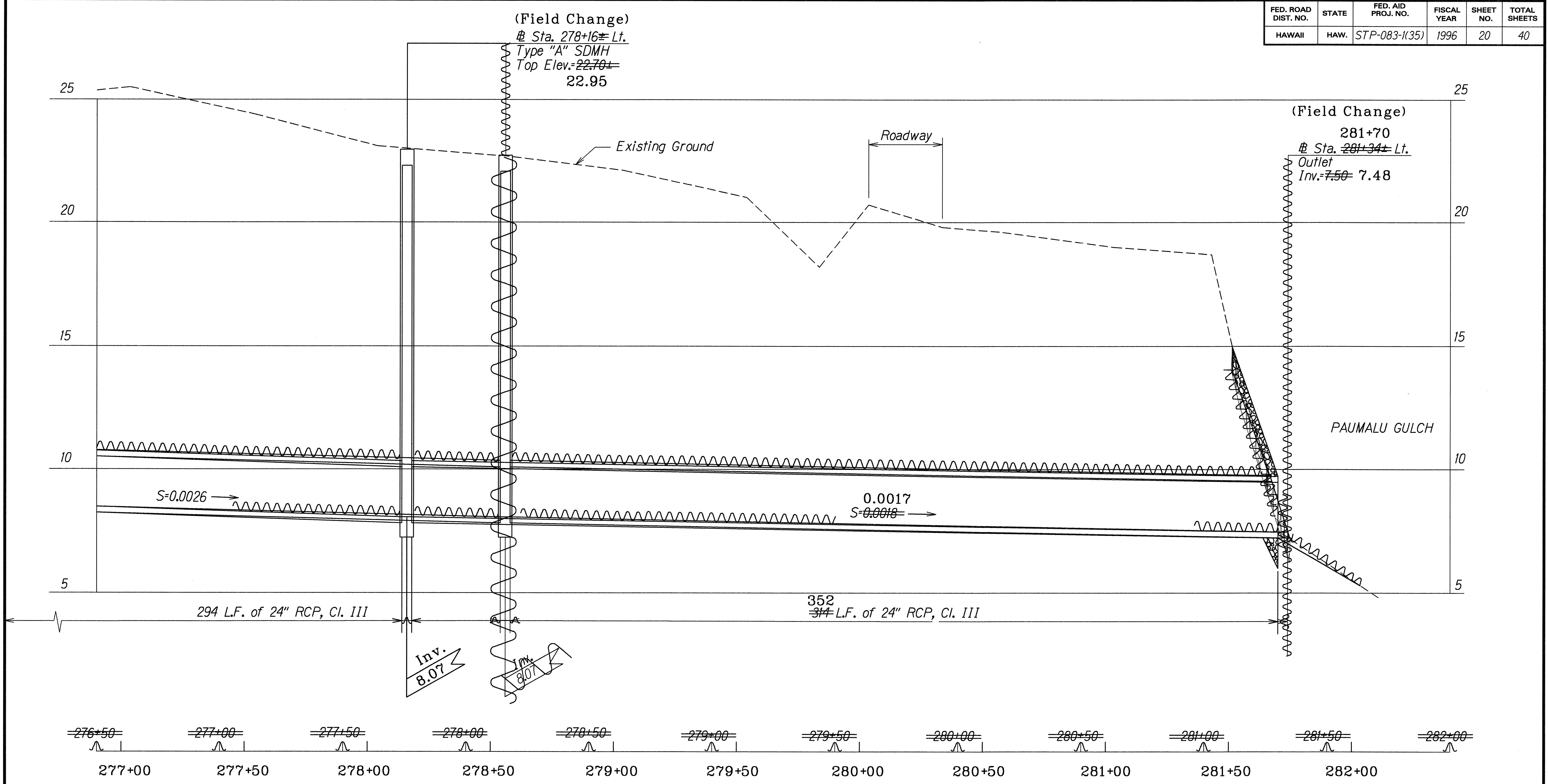
C.O. 18  
"AS-BUILT"

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 19        | 40           |



|               |      |
|---------------|------|
| ORIGINAL PLAN | DATE |
| DESIGNED BY   | 4/95 |
| TRACED BY     |      |
| NOTED BY      |      |
| QUANTITIES BY |      |
| CHECKED BY    |      |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 20        | 40           |



PROFILE ALONG CULVERT @ STA. 276+50 LT. TO @ STA. 282+00 LT.

Scale: Horiz. 1"=20'  
 Vert. 1"=2'

ORIGINAL PLAN  
 SURVEY LOCATED BY  
 DATE 4/95  
 DESIGNED BY E. Ishida  
 TRACED BY  
 QUANTITIES BY  
 CHECKED BY

| LEGEND FOR AS-BUILT POSTINGS |                                     |
|------------------------------|-------------------------------------|
|                              | Squiggly line for as-built deletion |
|                              | Double line for as-built deletion   |
| Roadway                      | Text for as-built posting           |

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

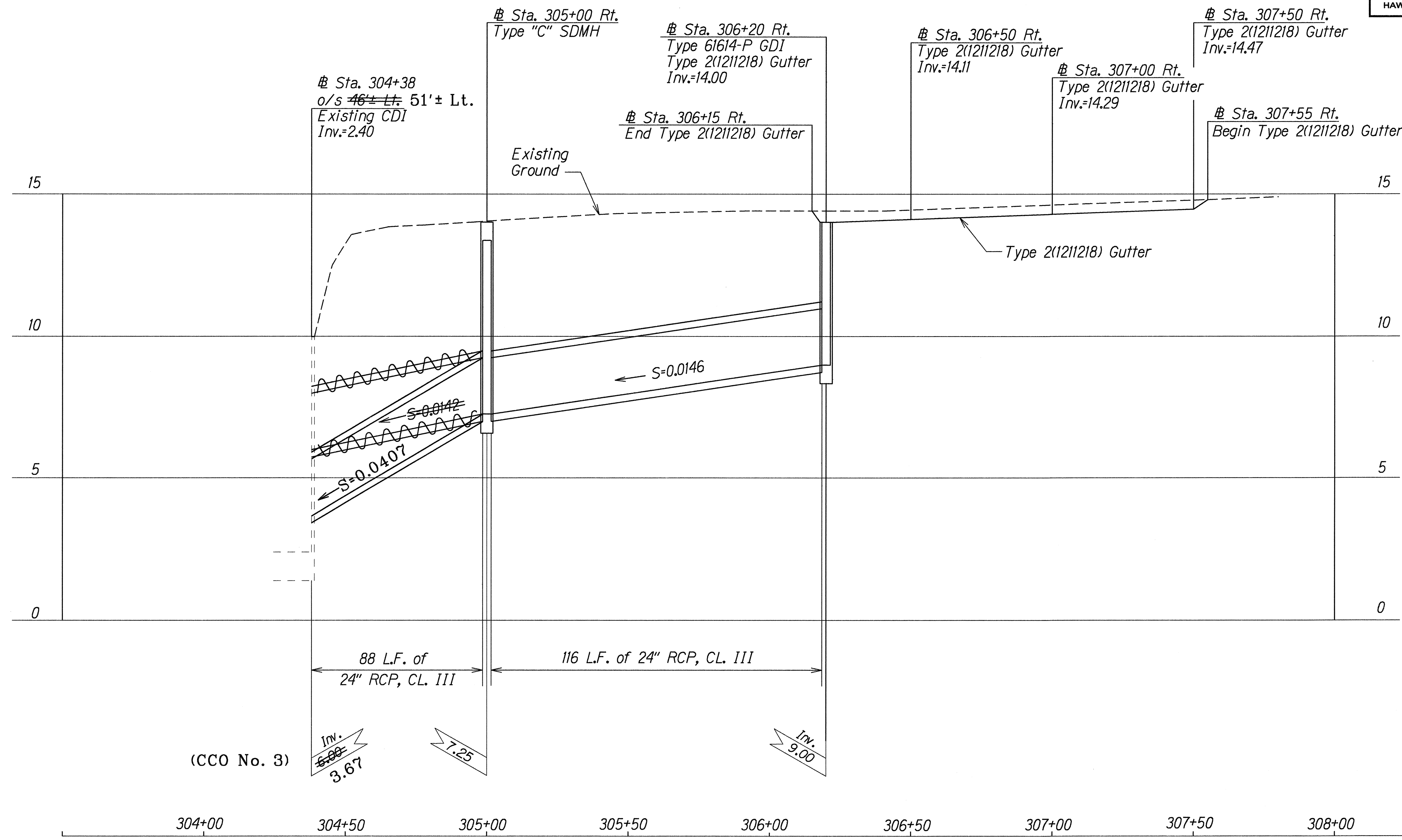
**DRAINAGE PROFILES**

KAMEHAMEHA HWY. DRAINAGE IMP.  
 Vic. of Sunset Beach Elementary School  
 Fed. Aid Project No. STP-083-1(35)

Scale: As Shown Date: Feb. 1996

SHEET No. H16 OF 24 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 21        | 40           |



PROFILE ALONG CULVERT STA. 304+38 RT. TO STA. 307+55 RT.

Scale: Horiz. 1"=20'  
Vert. 1"=2'

|             |      |
|-------------|------|
| DESIGNED BY | DATE |
| DRAWN BY    |      |
| CHECKED BY  |      |
| APPROVED BY |      |
| NOTED BY    |      |
| REVISIONS   |      |

| LEGEND FOR AS-BUILT POSTINGS |                                     |
|------------------------------|-------------------------------------|
|                              | Squiggly line for as-built deletion |
|                              | Double line for as-built deletion   |
|                              | Text for as-built posting           |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

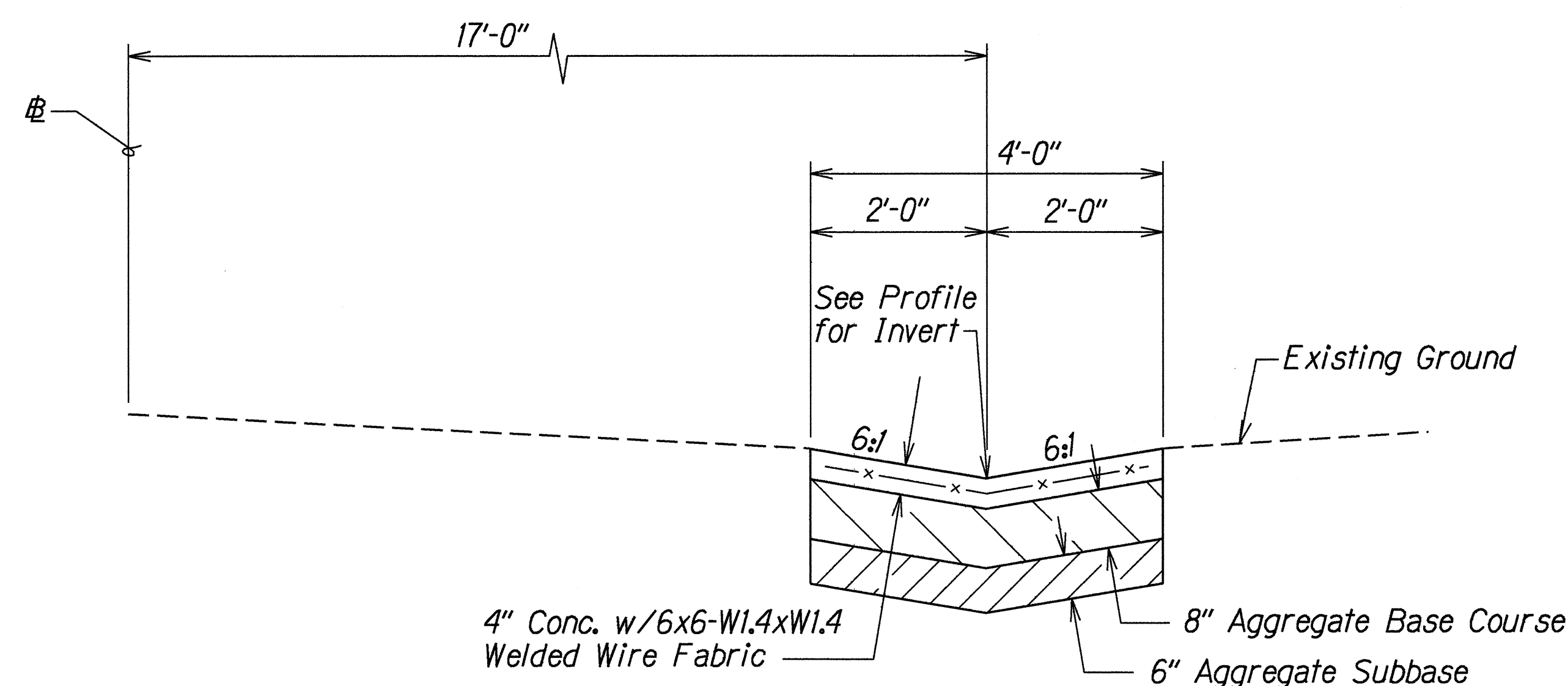
### DRAINAGE PROFILES

KAMEHAMEHA HWY. DRAINAGE IMP.  
Vic. of Sunset Beach Elementary School  
Fed. Aid Project No. STP-083-1(35)

Scale: As Shown      Date: Feb. 1996

SHEET No. 117 OF 24 SHEETS

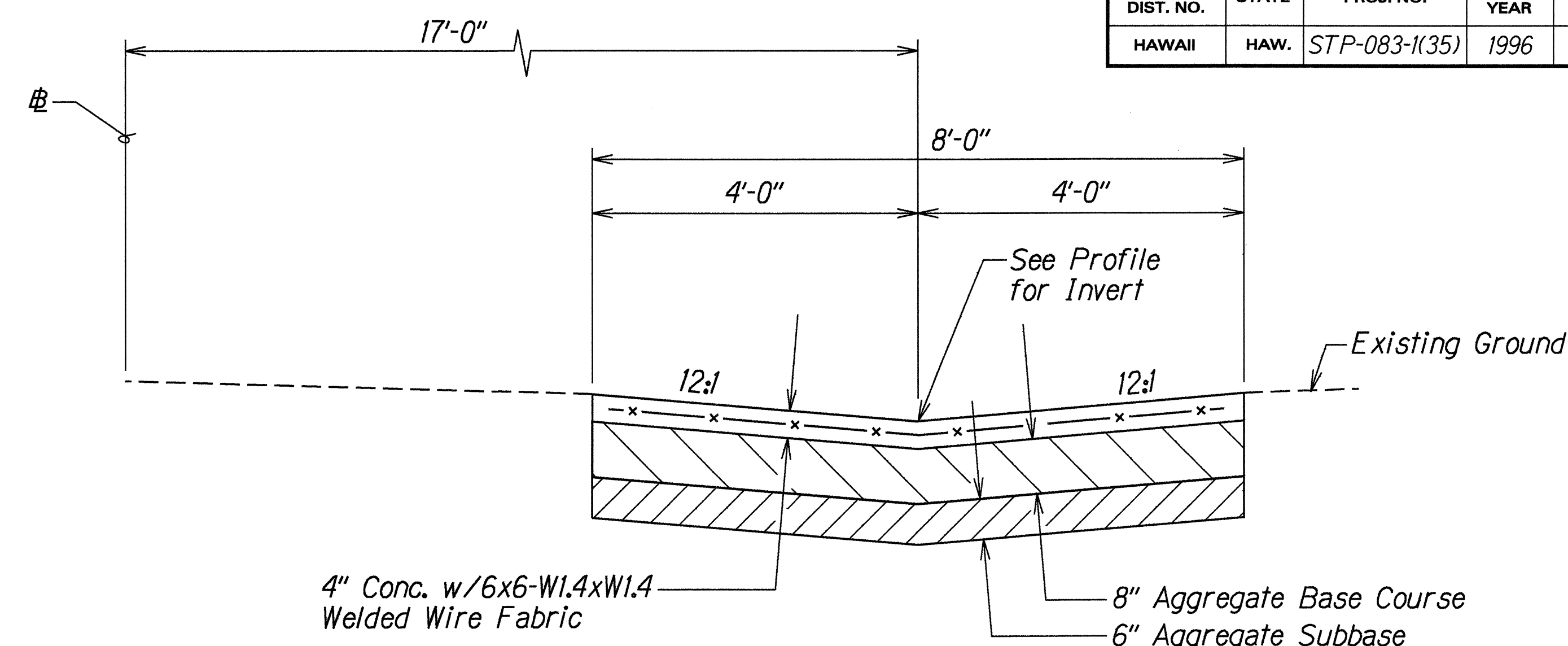
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 22        | 40           |



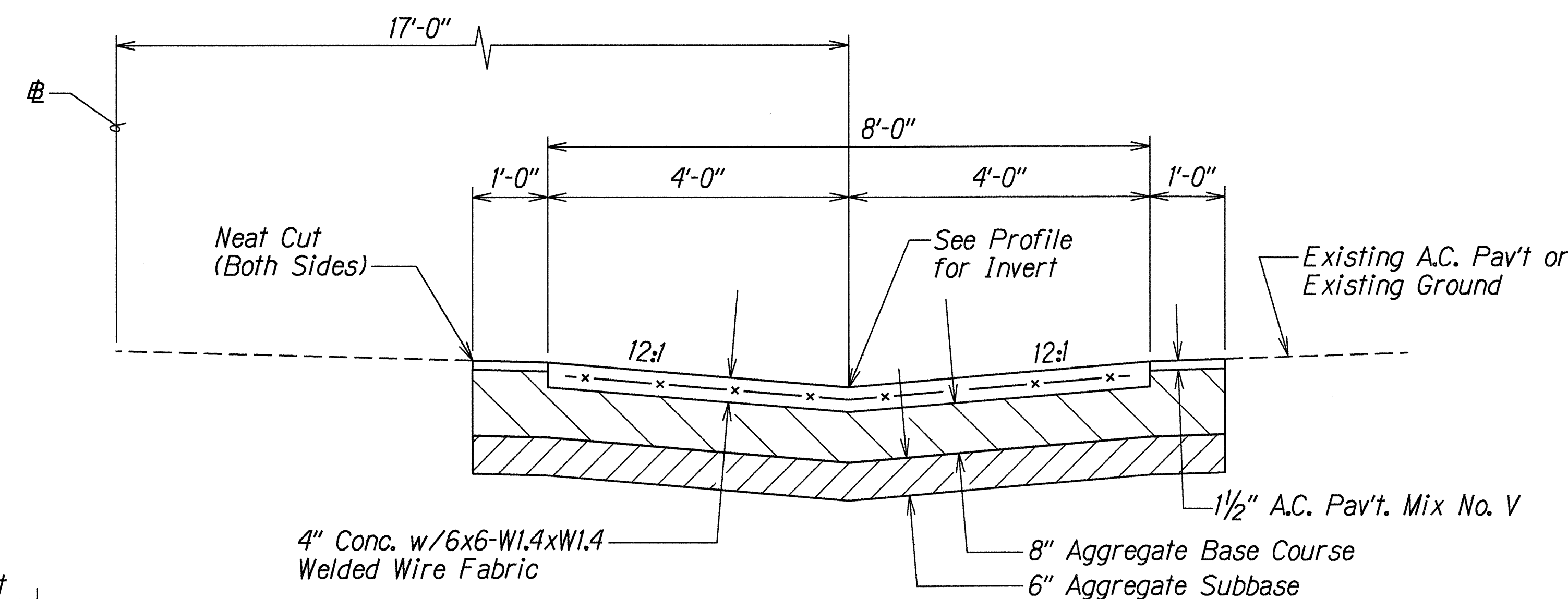
**DETAIL OF CASE I**  
(Sta. 222+50 Rt. to Sta. 239+75 Rt.)  
(Sta. 234+50 Lt. to Sta. 238+95 Lt.)

### DETAIL OF TYPE 2(61614) GUTTER

Scale:  $\frac{3}{4}$ "=1'-0"



**DETAIL OF CASE I**

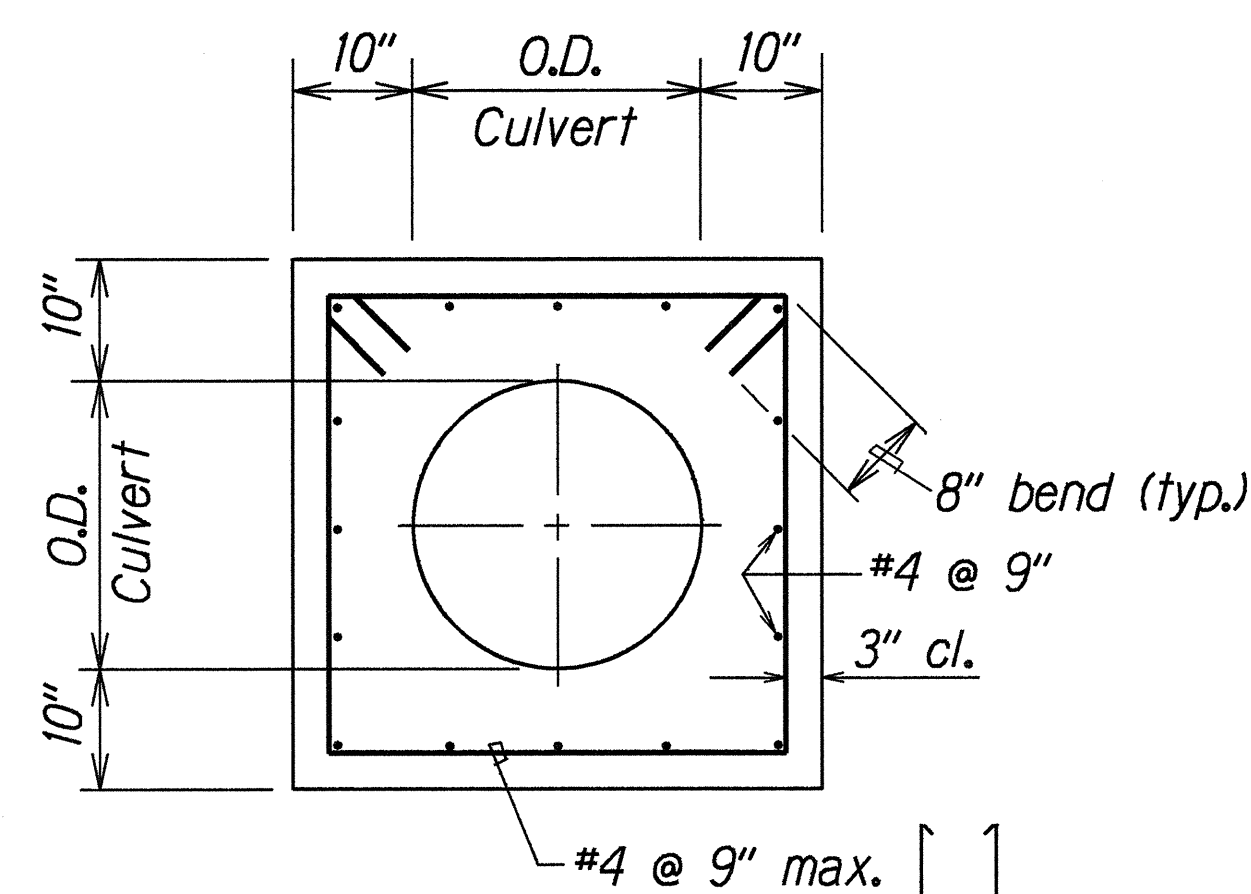


**DETAIL OF CASE II**

(Sta. 306+13 Rt. to Sta. 307+55 Rt.)

### DETAIL OF TYPE 2(1211218) GUTTER

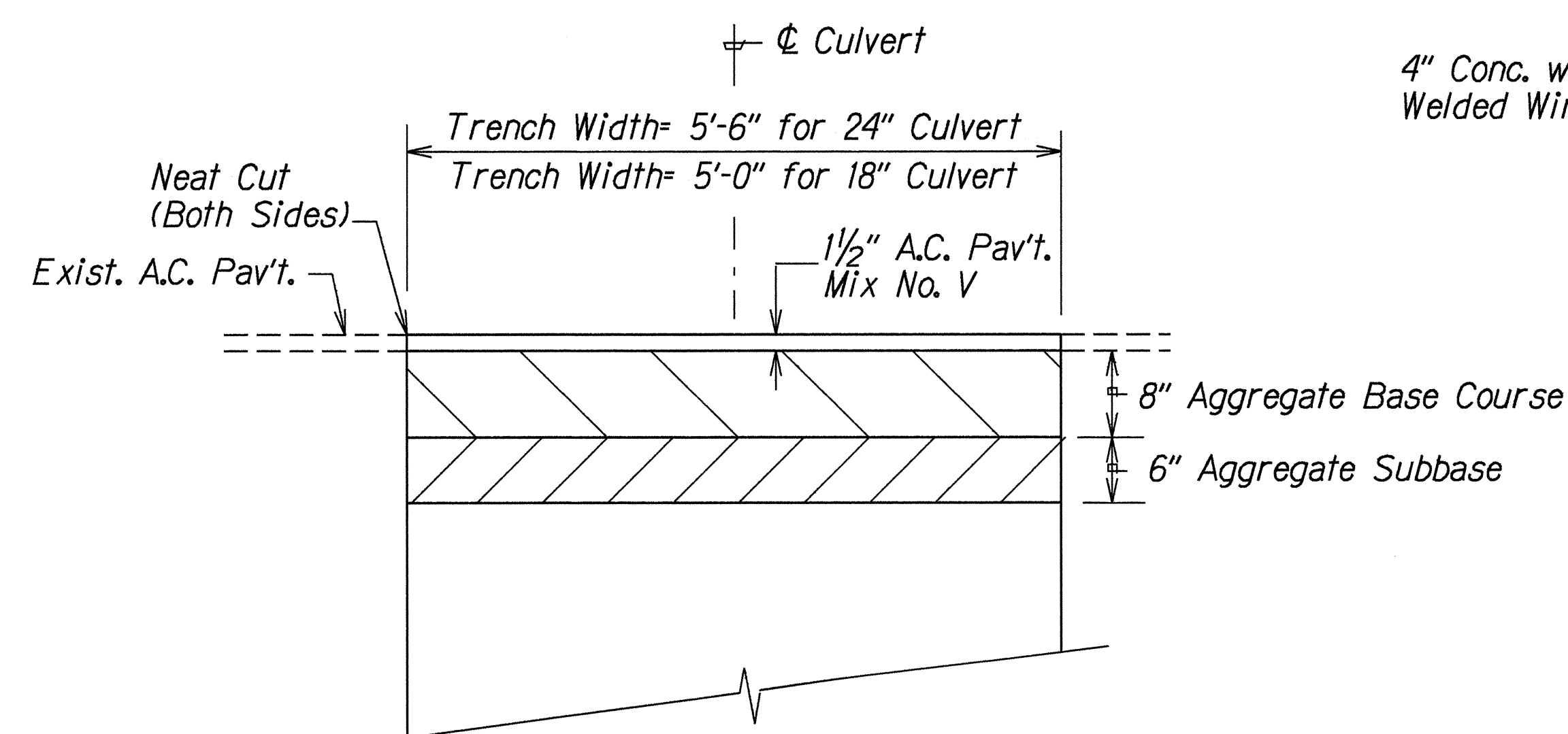
Scale:  $\frac{3}{4}$ "=1'-0"



Note: Reinforcing Steel for Concrete Jacket shall conform to the requirements of ASTM 615-Grade 60.

### ELEVATION TYPICAL DETAIL OF REINFORCED CONCRETE JACKET

Scale:  $\frac{3}{4}$ "=1'-0"



### RESTORATION OF PAVEMENT ON KAMEHAMEHA HIGHWAY

Scale: 1"=1'-0"

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

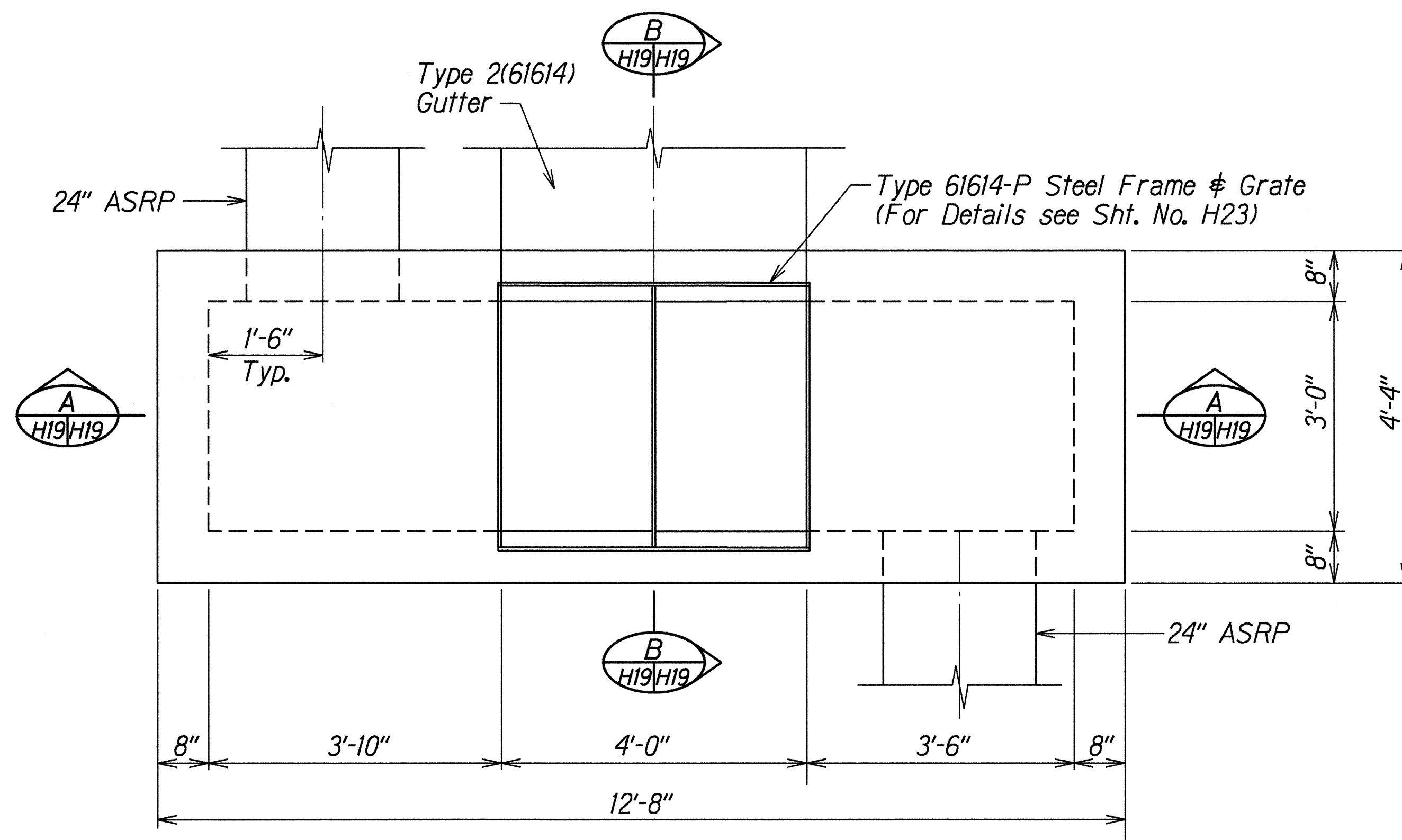
**DRAINAGE DETAILS**

KAMEHAMEHA HWY. DRAINAGE IMP.  
Vic. of Sunset Beach Elementary School  
Fed Aid Project No. STP-083-1(35)

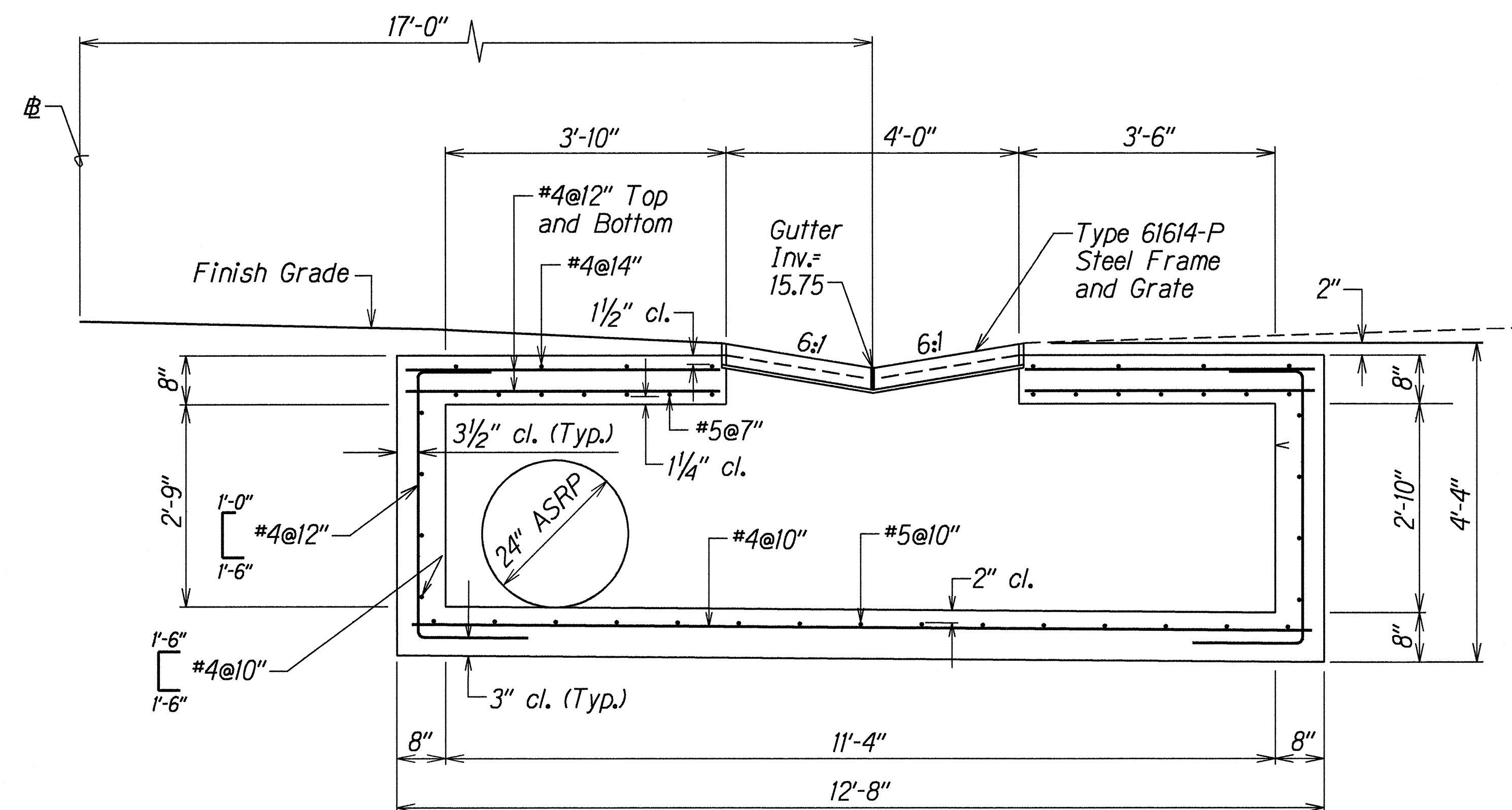
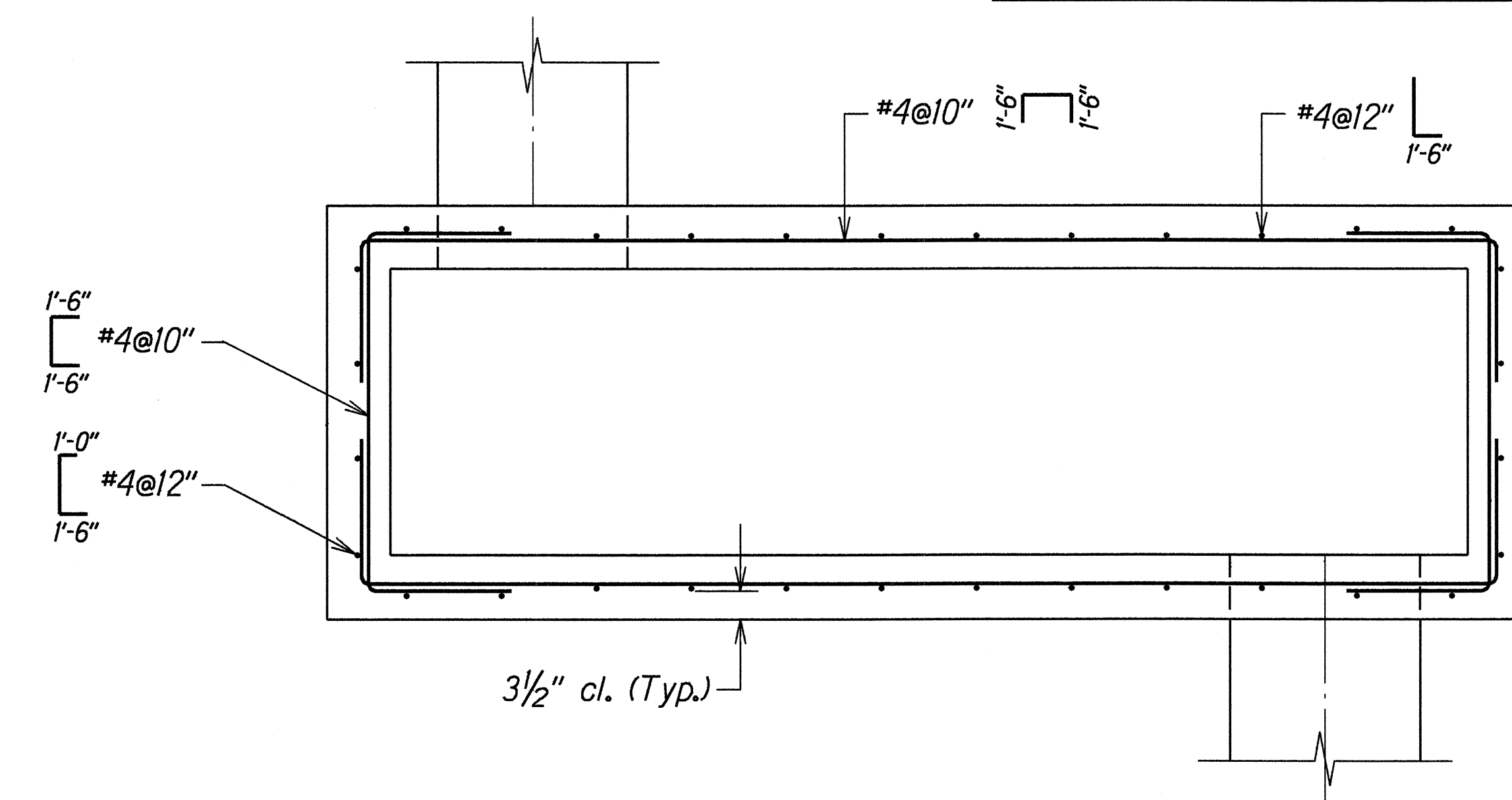
Scale: As Shown Date: Feb. 1996

SHEET No. H18 OF 24 SHEETS

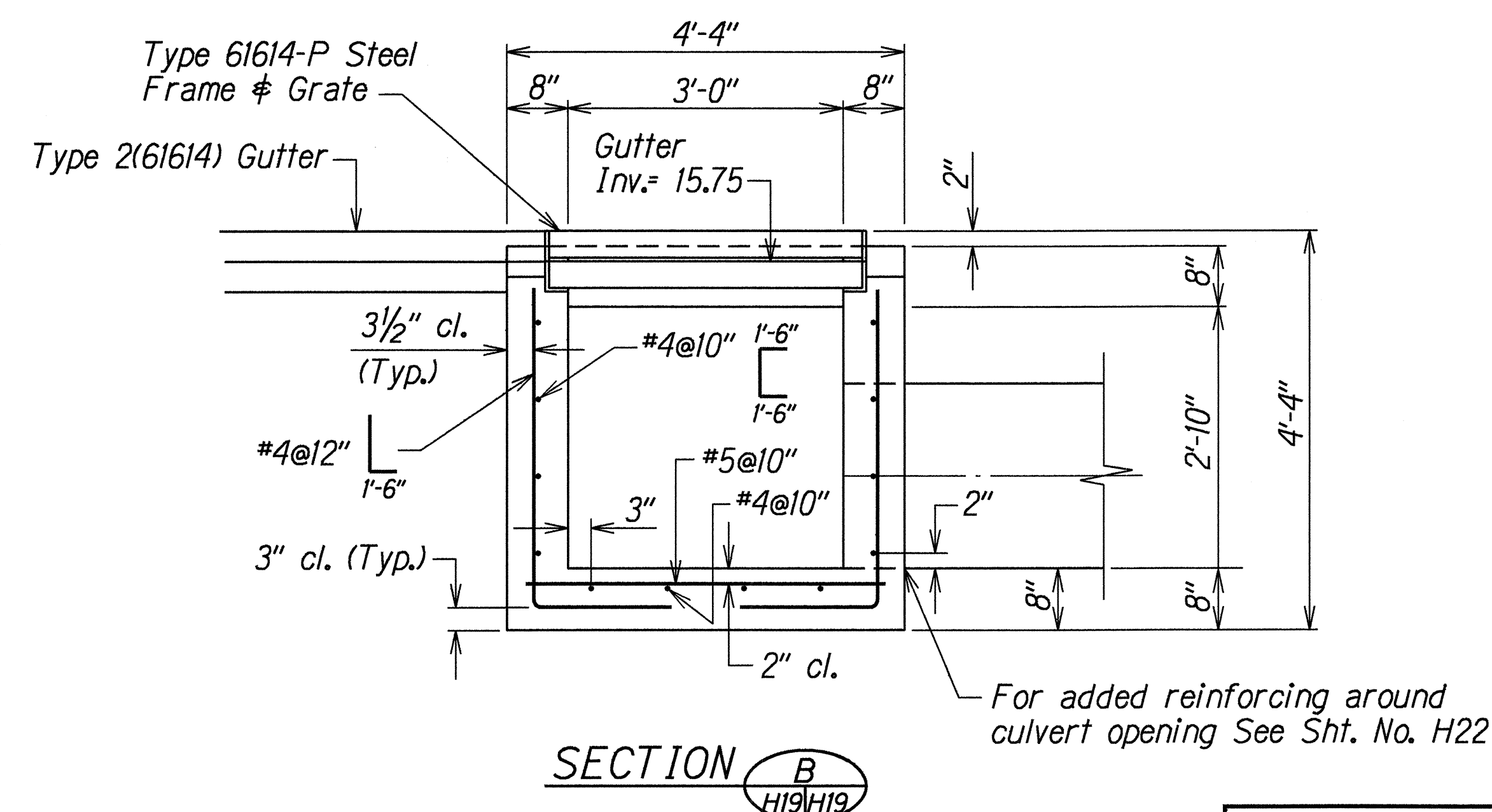
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 23        | 40           |



PLAN



SECTION A H19/H19



SECTION B H19/H19

DETAIL OF TYPE 61614-PM GRATED DROP INLET AT STA. 222+50 RT.

|             |      |
|-------------|------|
| DESIGNED BY | DATE |
| DRAWN BY    |      |
| CHECKED BY  |      |
| IN CHARGE   |      |
| APPROVED BY |      |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

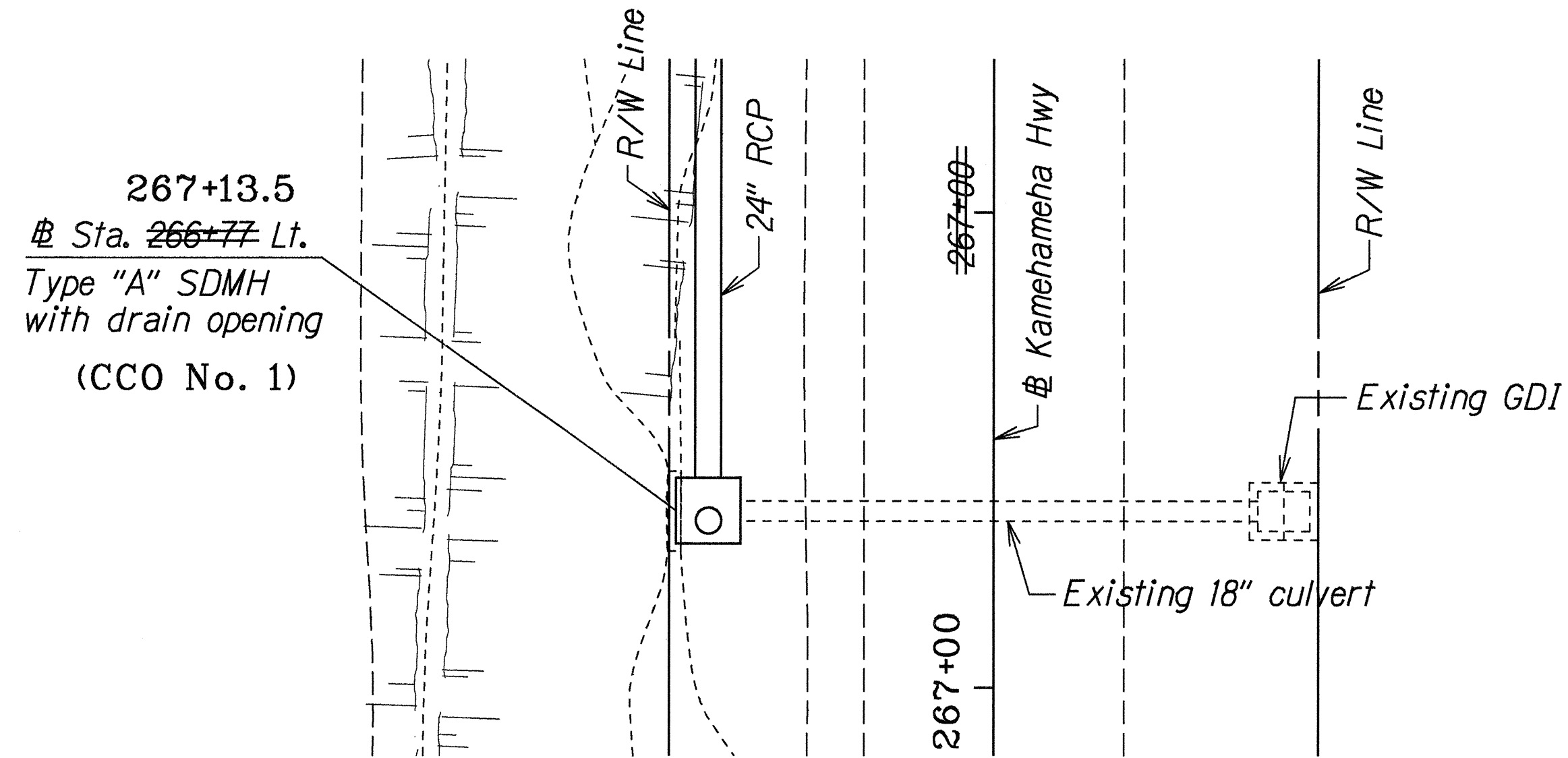
KAMEHAMEHA HWY. DRAINAGE IMP.  
Vic. of Sunset Beach Elementary School  
Project No. STP-083-1(35)

Scale: 3/4" = 1'-0" Date: Feb. 1996

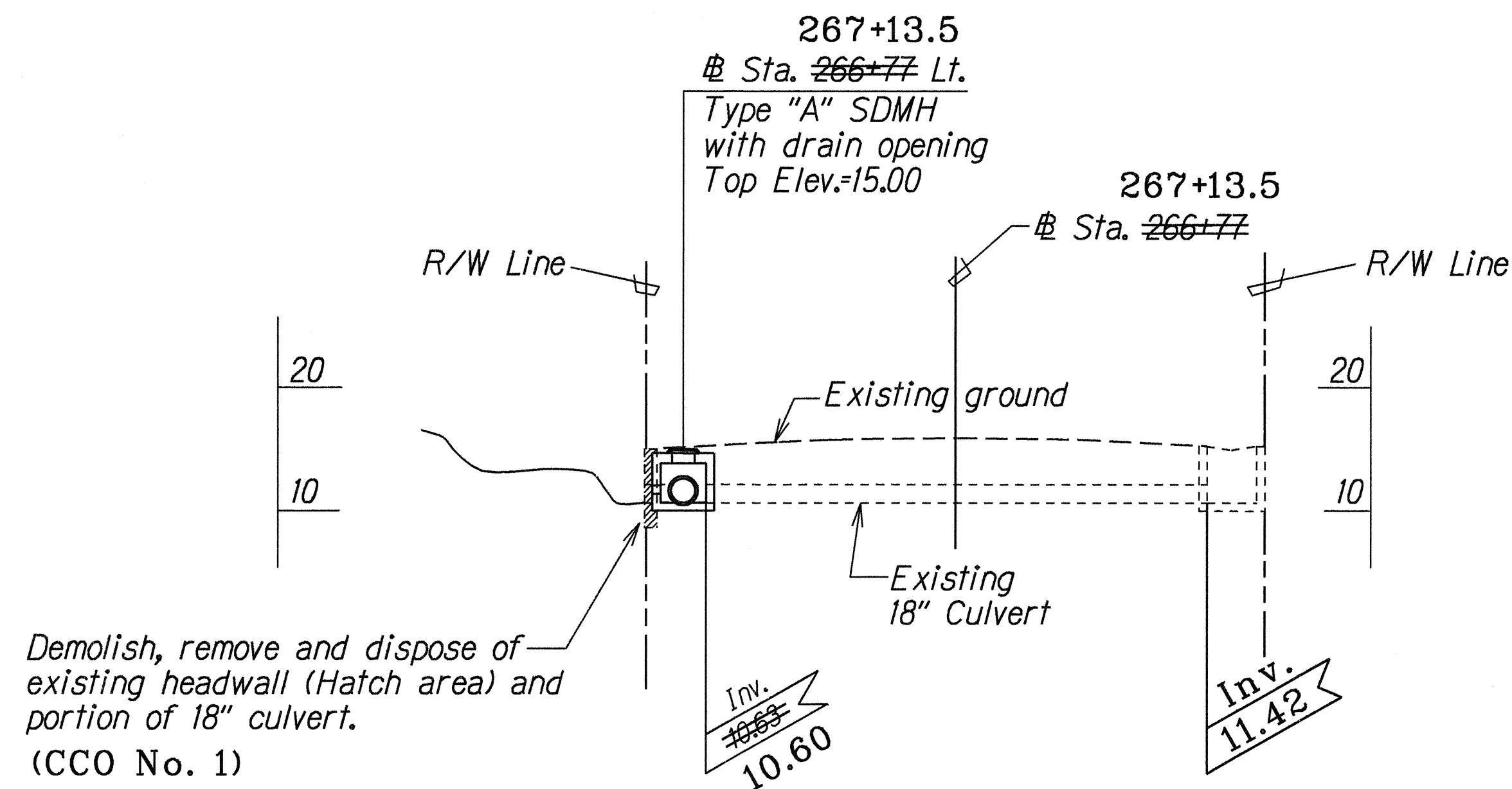
SHEET No. H19 OF 24 SHEETS



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 24        | 40           |

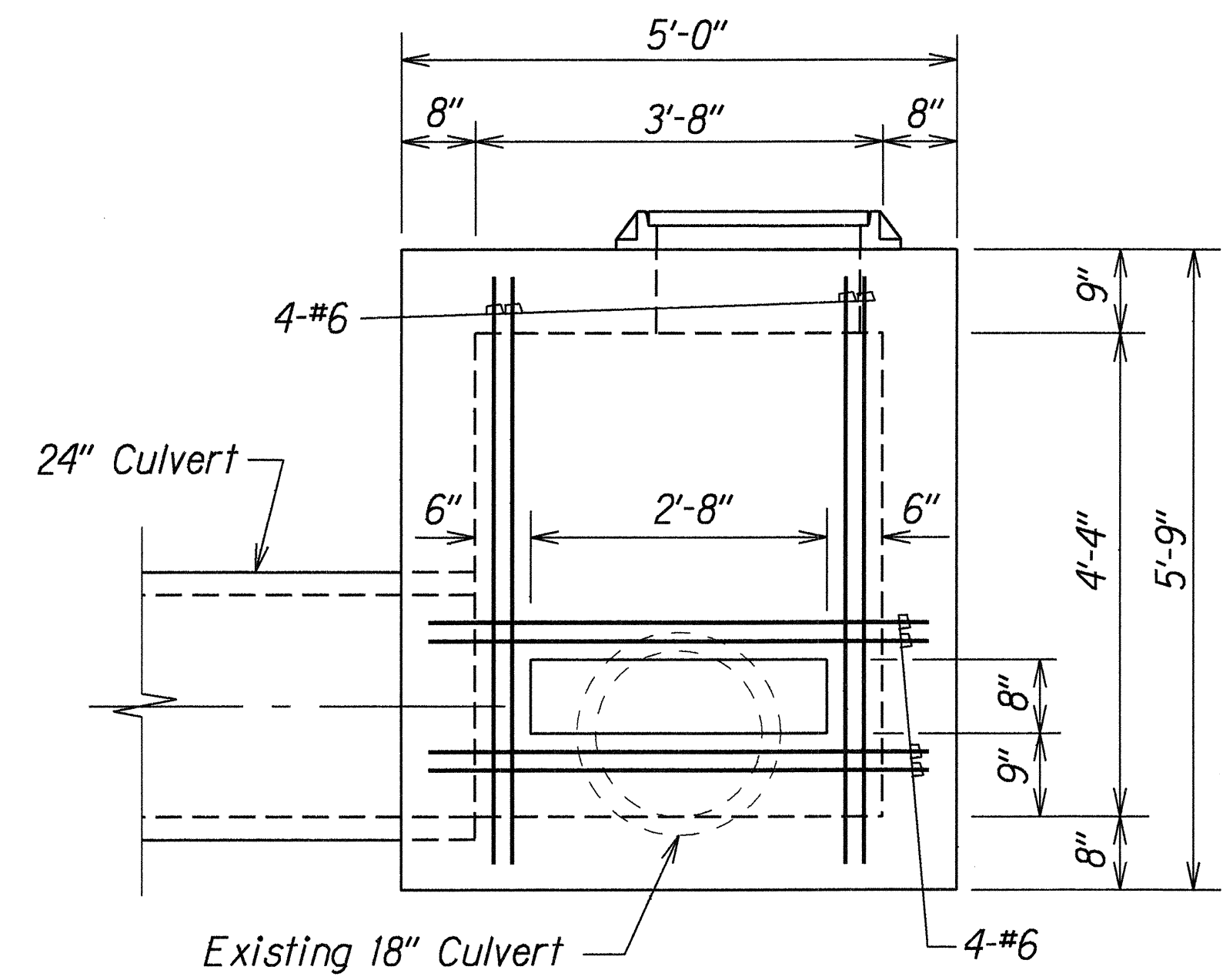


PLAN  
Scale: 1"=10'



PROFILE  
Scale: 1"=10'

267+13.5  
DETAIL OF TYPE "A" SDM WITH DRAIN OPENING AT STA. 266+77 LT.



DETAIL OF DRAIN OPENING (CCO No. 1)  
Scale: 3/4"=1'-0"

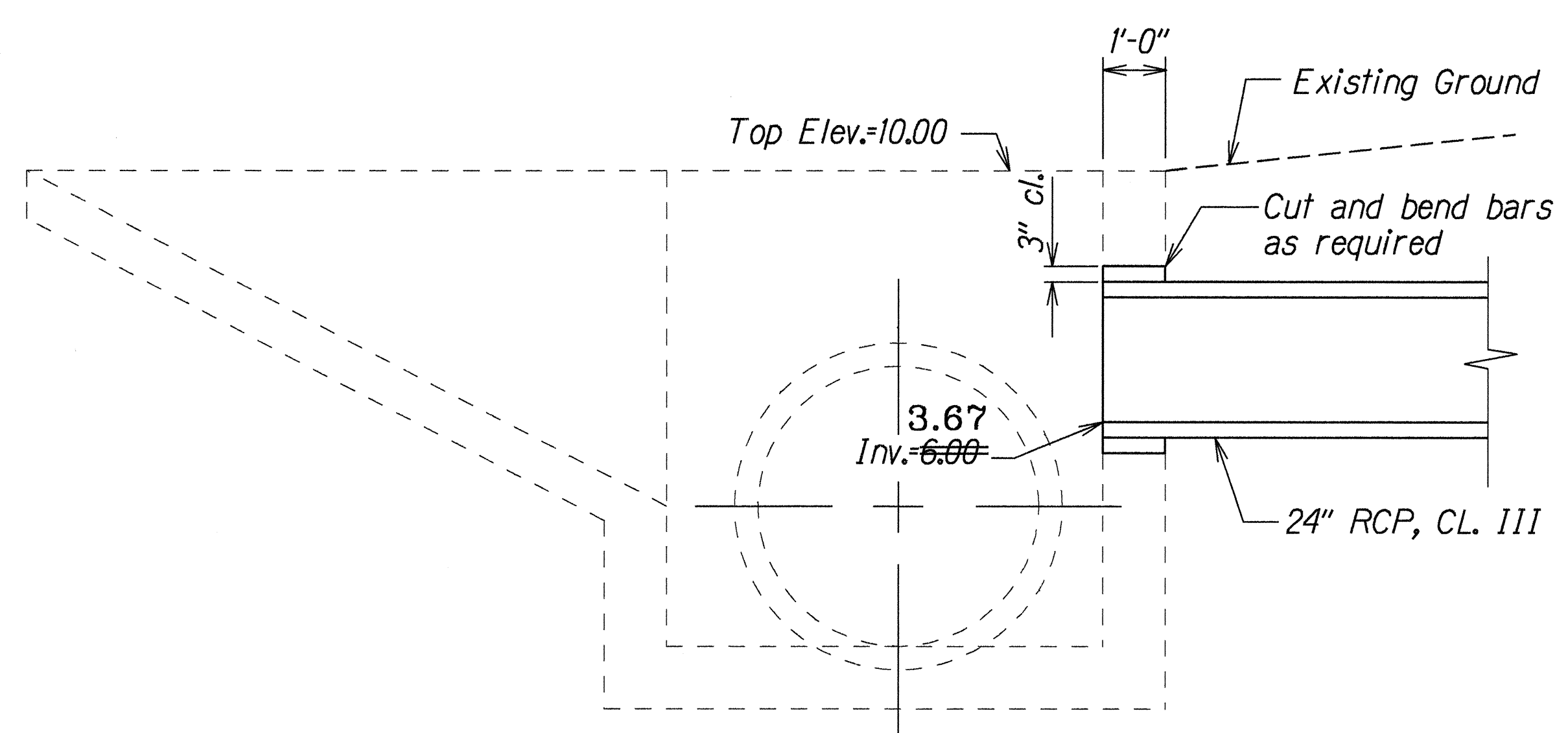
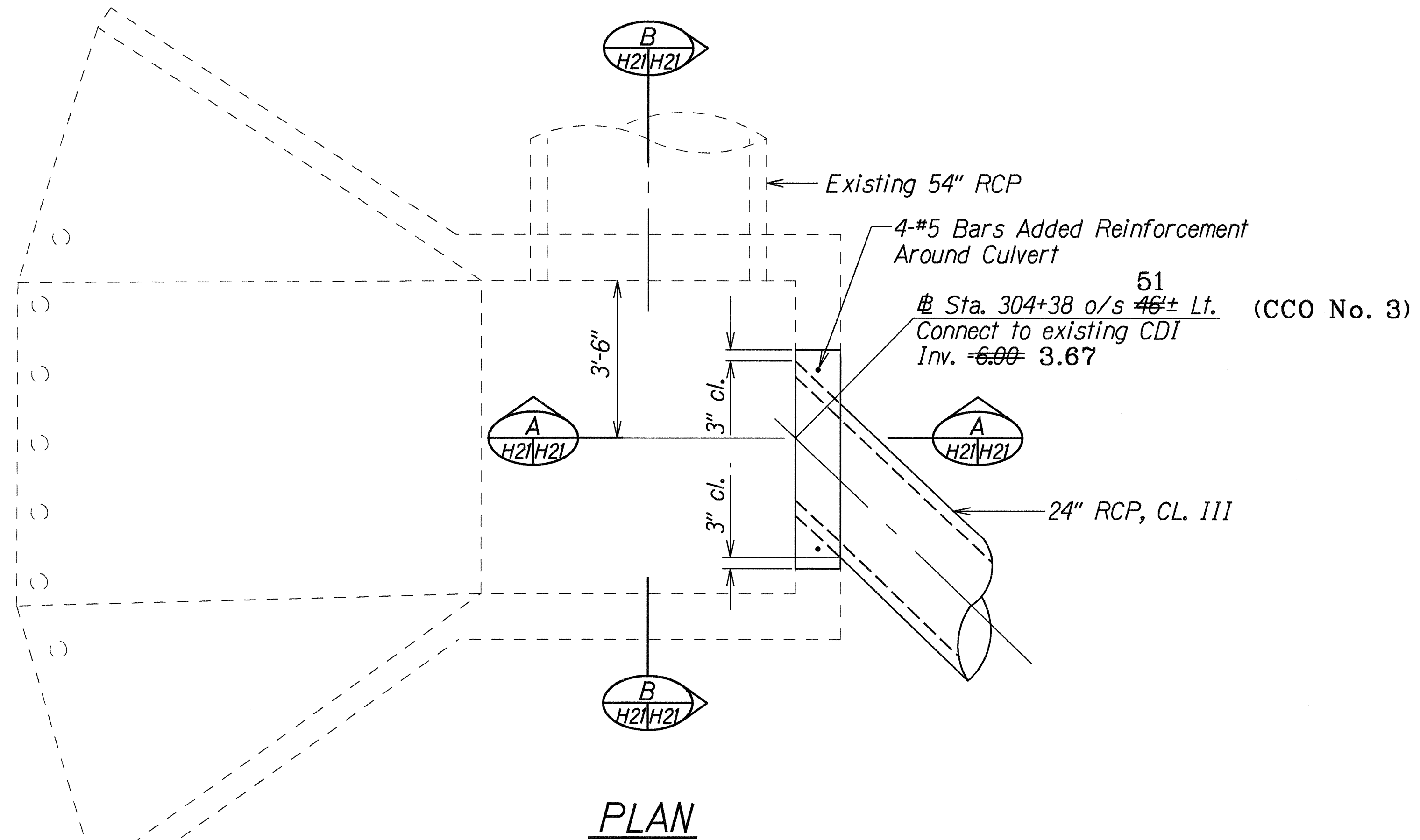
NOTE:  
For construction details of Type "A" SDM see Standard Plan H-05.  
Drain opening is installed in Type "A" SDM at this location only.

|                   |      |
|-------------------|------|
| ORIGINAL PLAN     | DATE |
| SURVEY LOCATED BY |      |
| DRAWN BY          |      |
| DESIGNED BY       |      |
| CHECKED BY        |      |

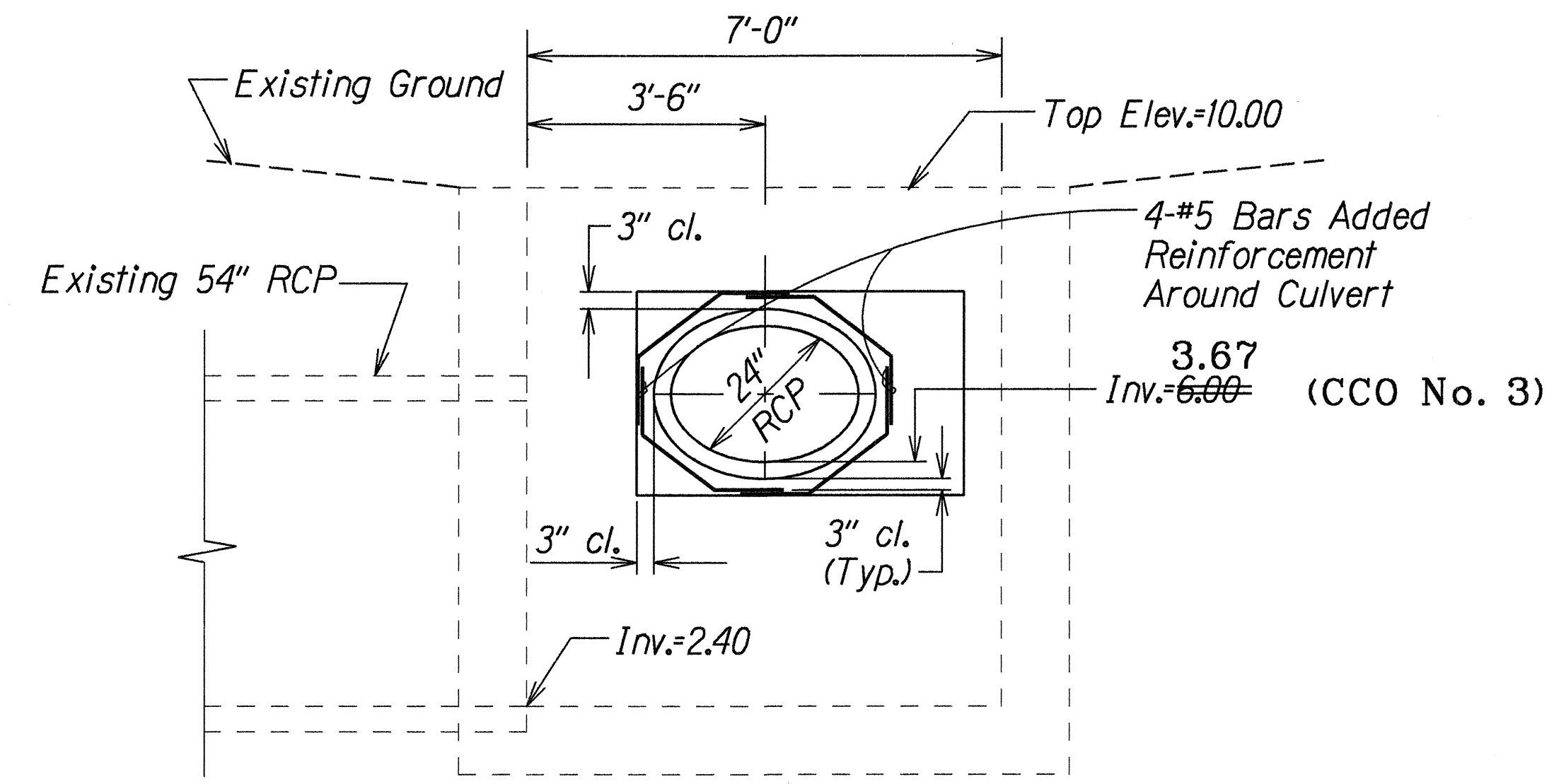
| LEGEND FOR AS-BUILT POSTINGS |                                     |
|------------------------------|-------------------------------------|
|                              | Squiggly line for as-built deletion |
|                              | Double line for as-built deletion   |
| Roadway                      | Text for as-built posting           |

|                                                                                                               |                                     |
|---------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 7/15/96                                                                                                       | Added details to show drain opening |
| DATE                                                                                                          | REVISION                            |
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION                                          |                                     |
| <b>DRAINAGE DETAILS</b>                                                                                       |                                     |
| KAMEHAMEHA HWY. DRAINAGE IMP.<br>Vic. of Sunset Beach Elementary School<br>Fed. Aid Project No. STP-083-1(35) |                                     |
| Scale: As Shown                                                                                               | Date: Jul, 1996                     |
| SHEET No. H20A OF 24 SHEETS                                                                                   |                                     |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 25        | 40           |



SECTION A  
H21/H21



SECTION B  
H21/H21

CONNECTION DETAIL AT STA. 304+38 o/s 46± Lt. (CCO No. 3)

| LEGEND FOR AS-BUILT POSTINGS |                                     |
|------------------------------|-------------------------------------|
|                              | Squiggly line for as-built deletion |
|                              | Double line for as-built deletion   |
| Roadway                      | Text for as-built posting           |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

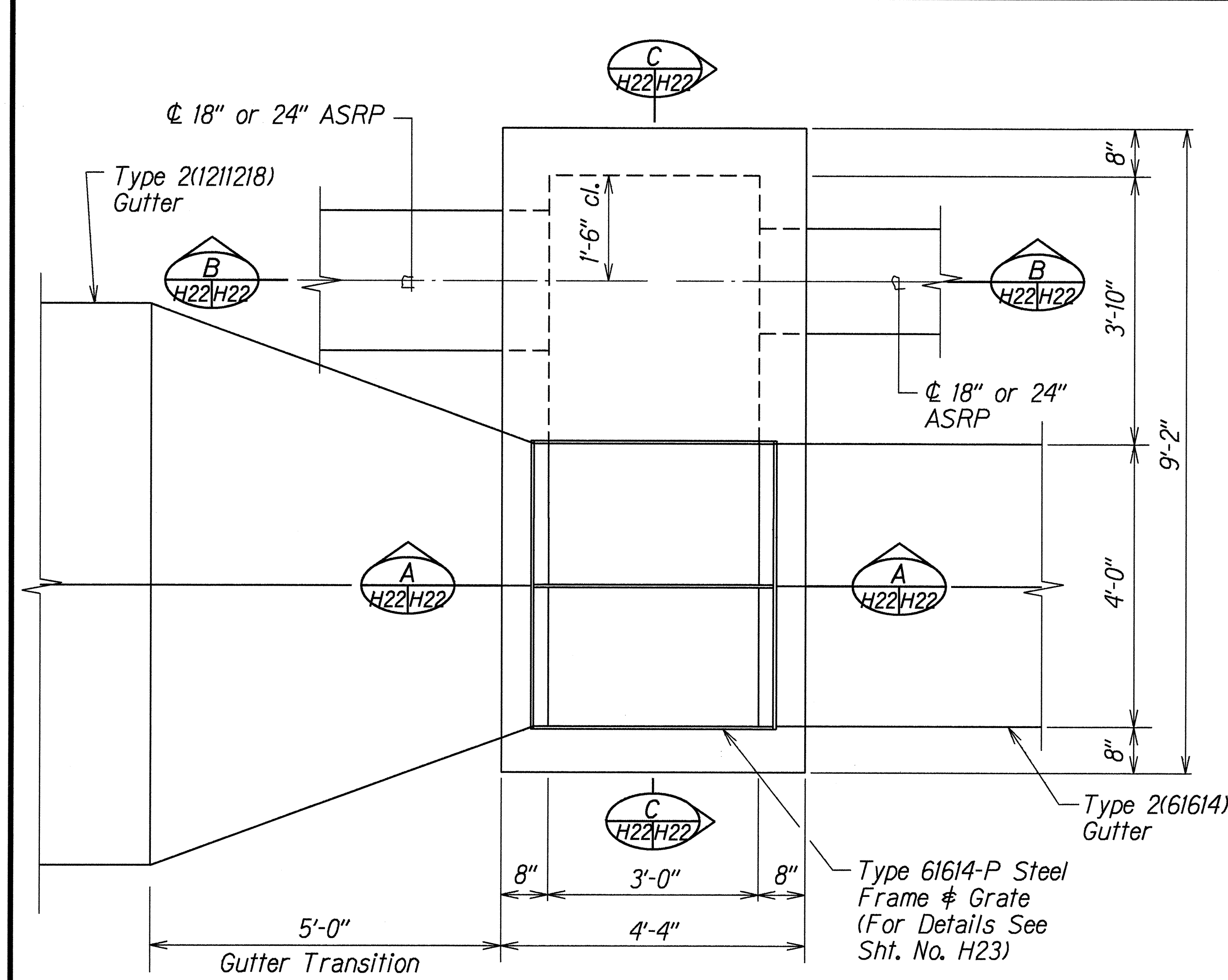
KAMEHAMEHA HWY. DRAINAGE IMP.  
Vic. of Sunset Beach Elementary School  
Fed. Aid Project No. STP-083-1(35)

Scale: 1/2"=1'-0" Date: Feb. 1996

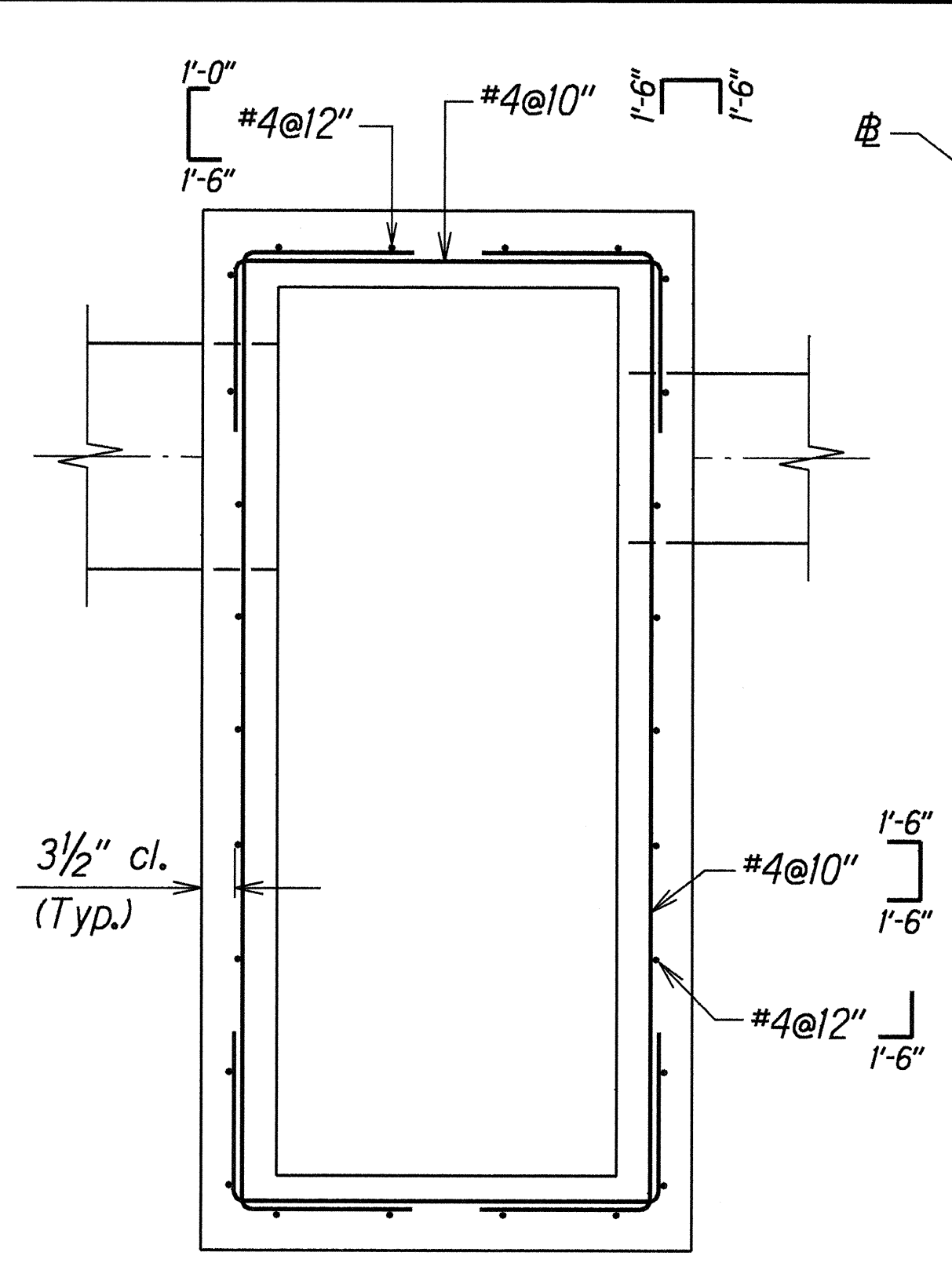
SHEET No. H21 OF 24 SHEETS

|               |        |
|---------------|--------|
| ORIGINAL PLAN | DATE   |
| NOTED BY      | 1/2/96 |
| DESIGNED BY   |        |
| CHECKED BY    |        |

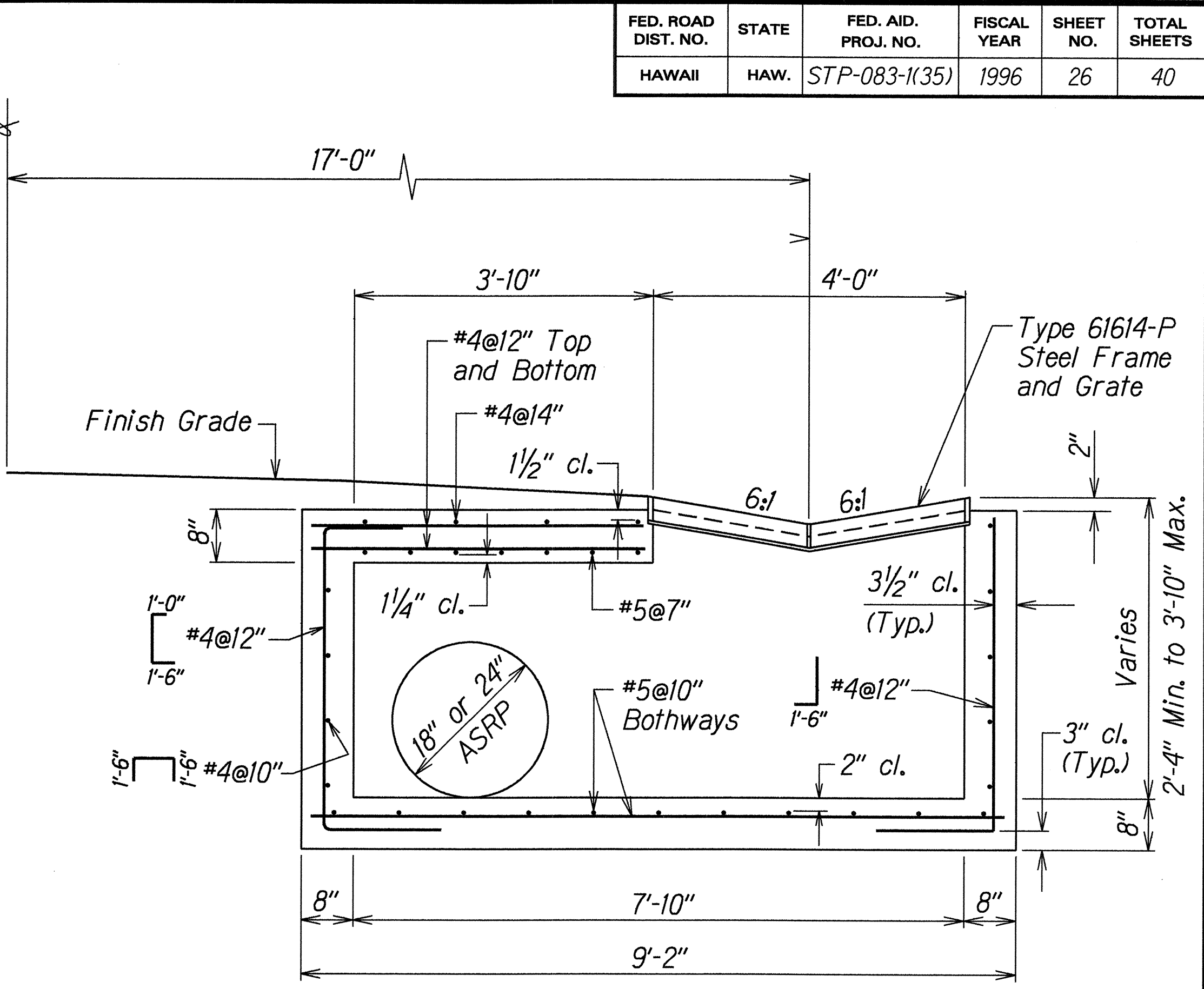
| FED. ROAD DIST. NO. | STATE | FED. AID. PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|---------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)       | 1996        | 26        | 40           |



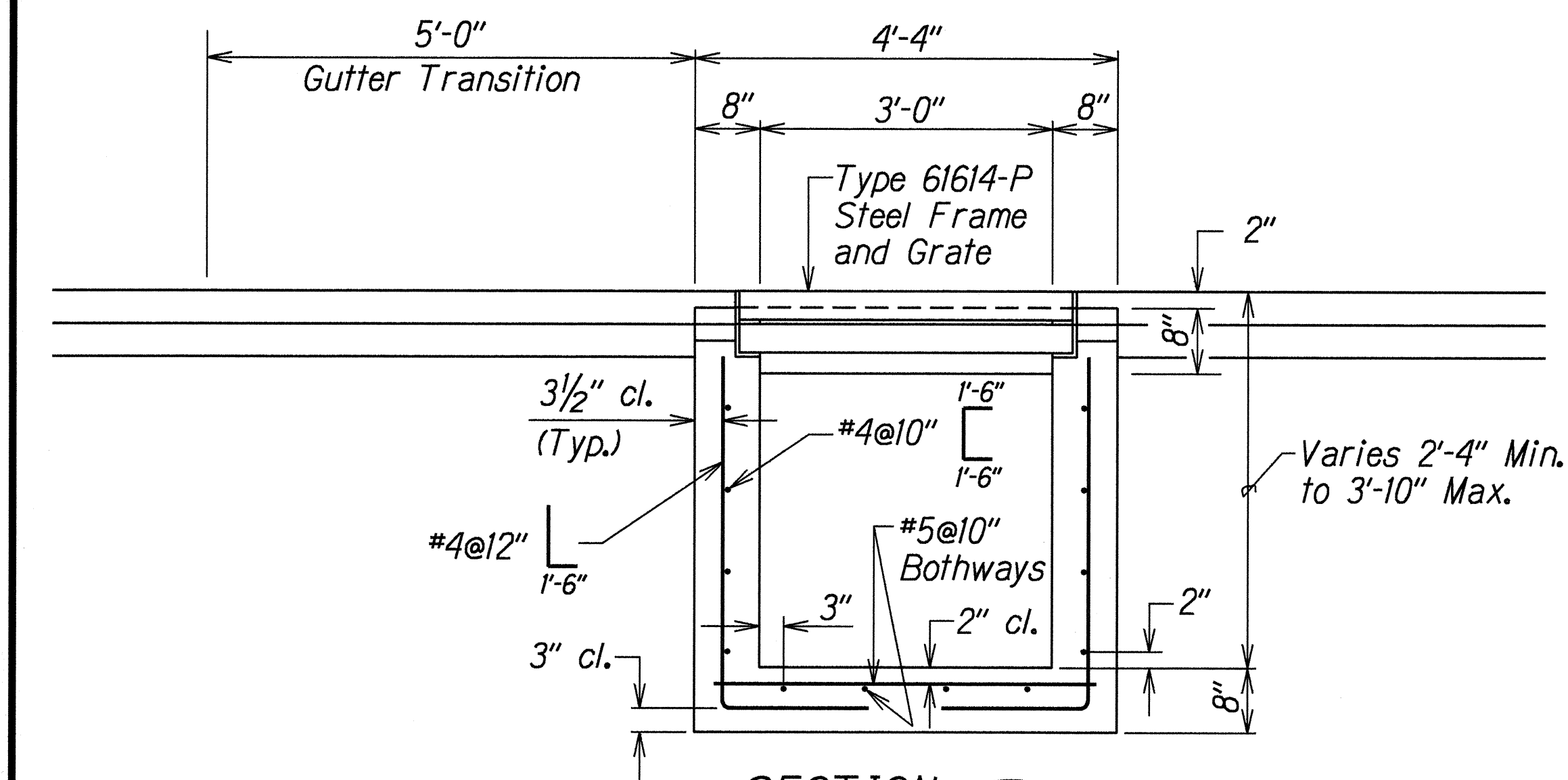
PLAN



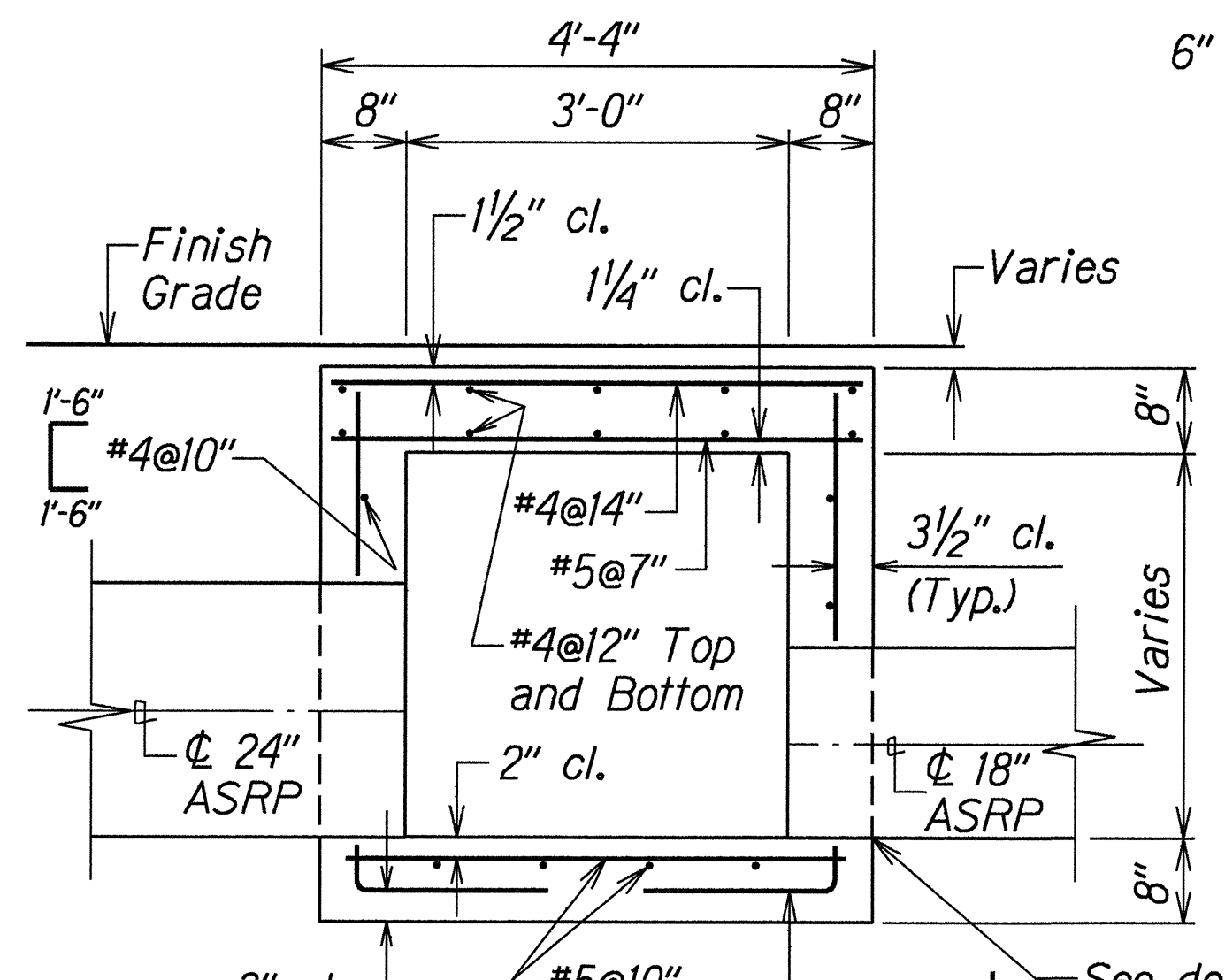
PLAN VIEW OF WALL REINFORCING



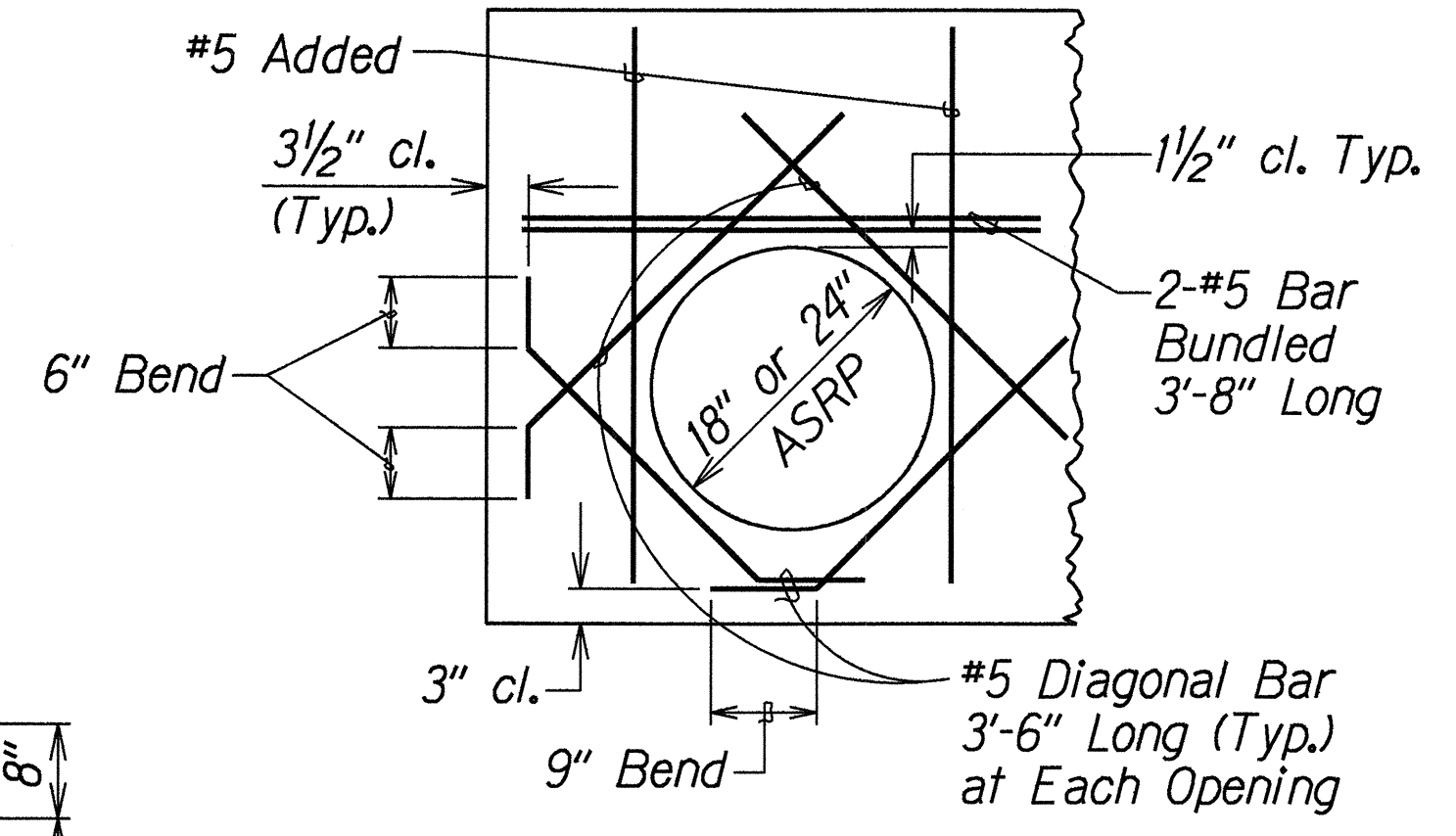
SECTION C



SECTION A



SECTION B



ADDED REINFORCING FOR CULVERT OPENING

DETAIL OF TYPE 61614-P GRATED DROP INLET

|             |     |
|-------------|-----|
| DATE        | X   |
| DESIGNED BY | ... |
| CHECKED BY  | ... |
| IN CHARGE   | ... |
| NOTED BY    | ... |
| QUANTITY BY | ... |
| REVISIONS   | ... |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

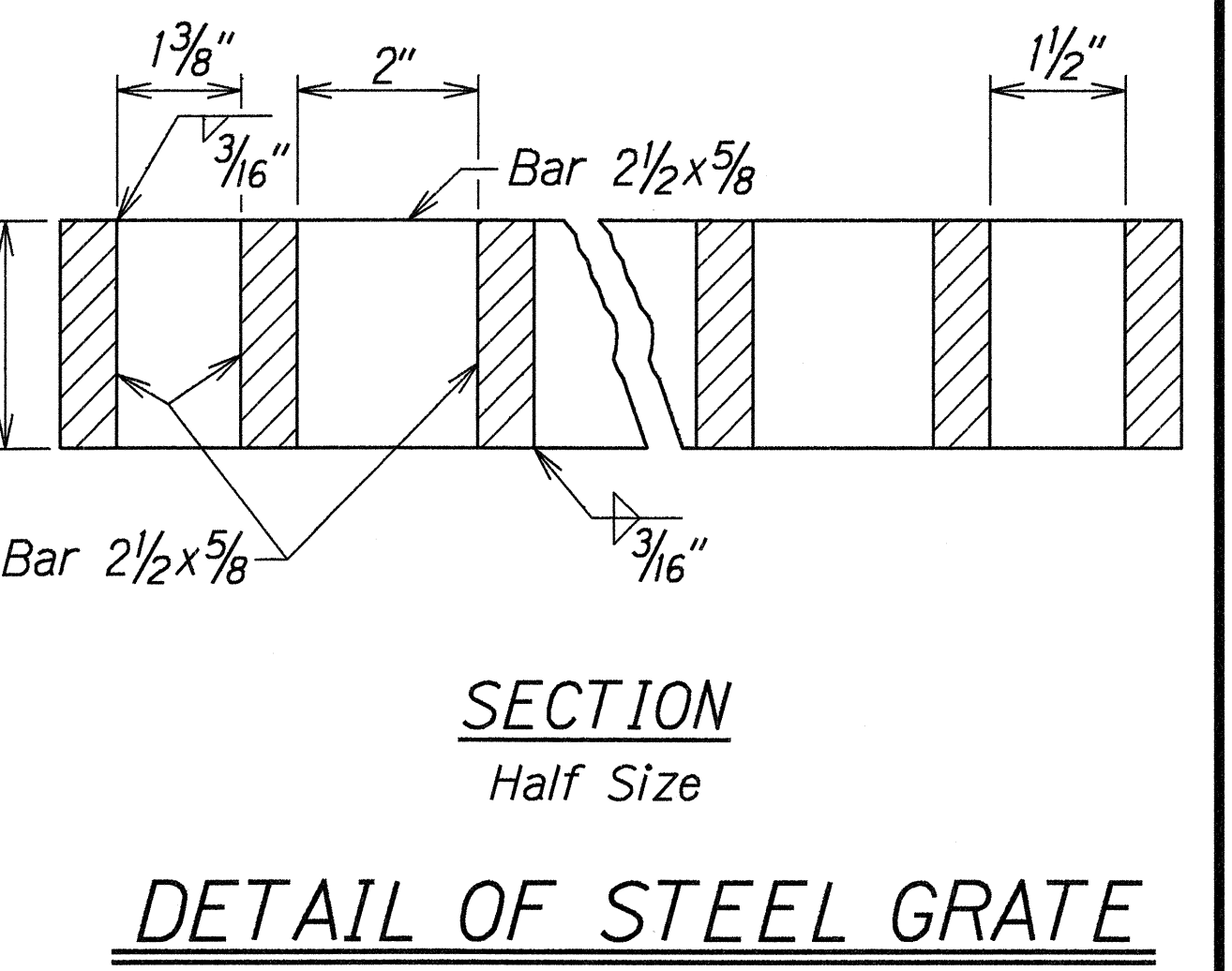
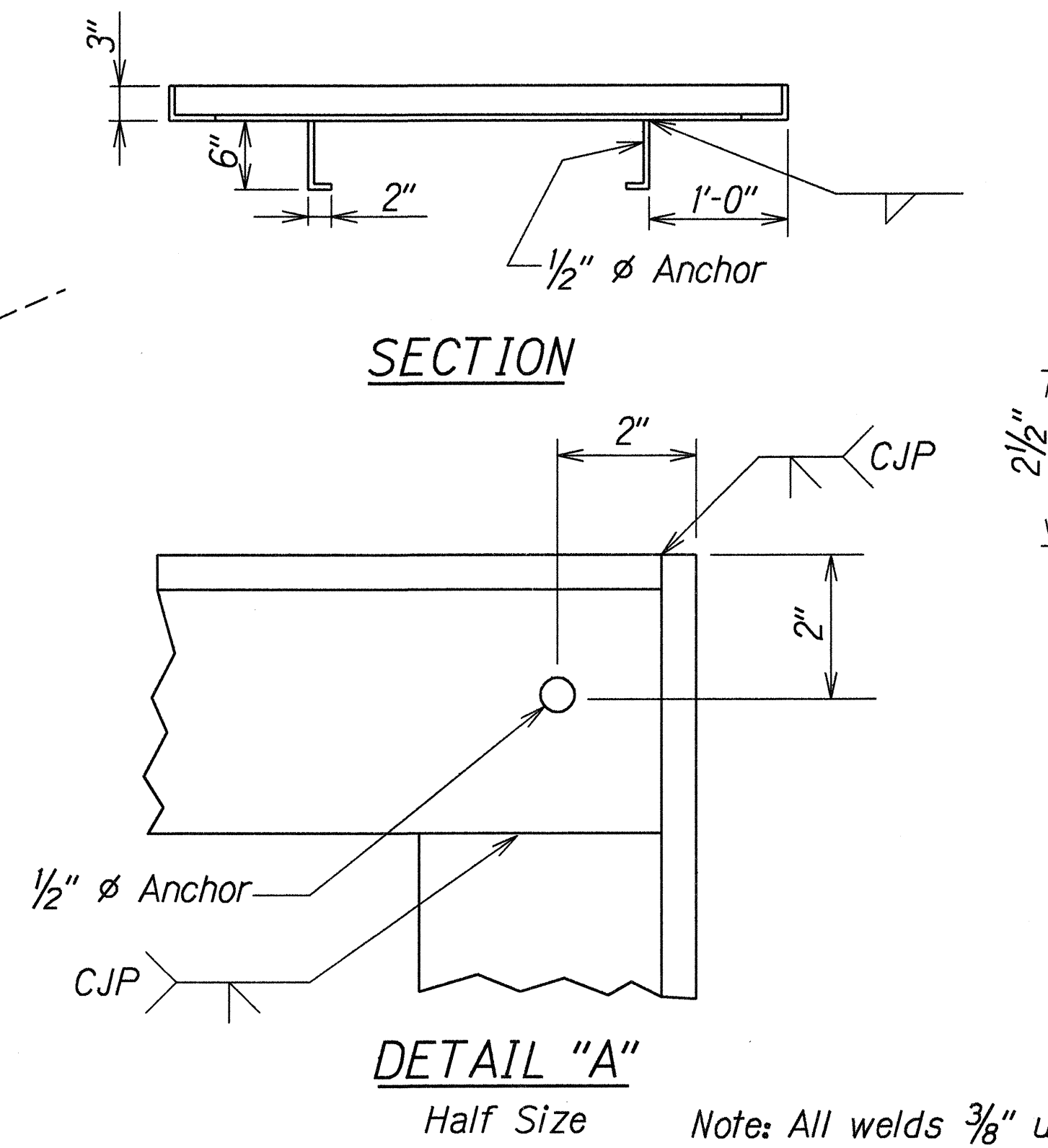
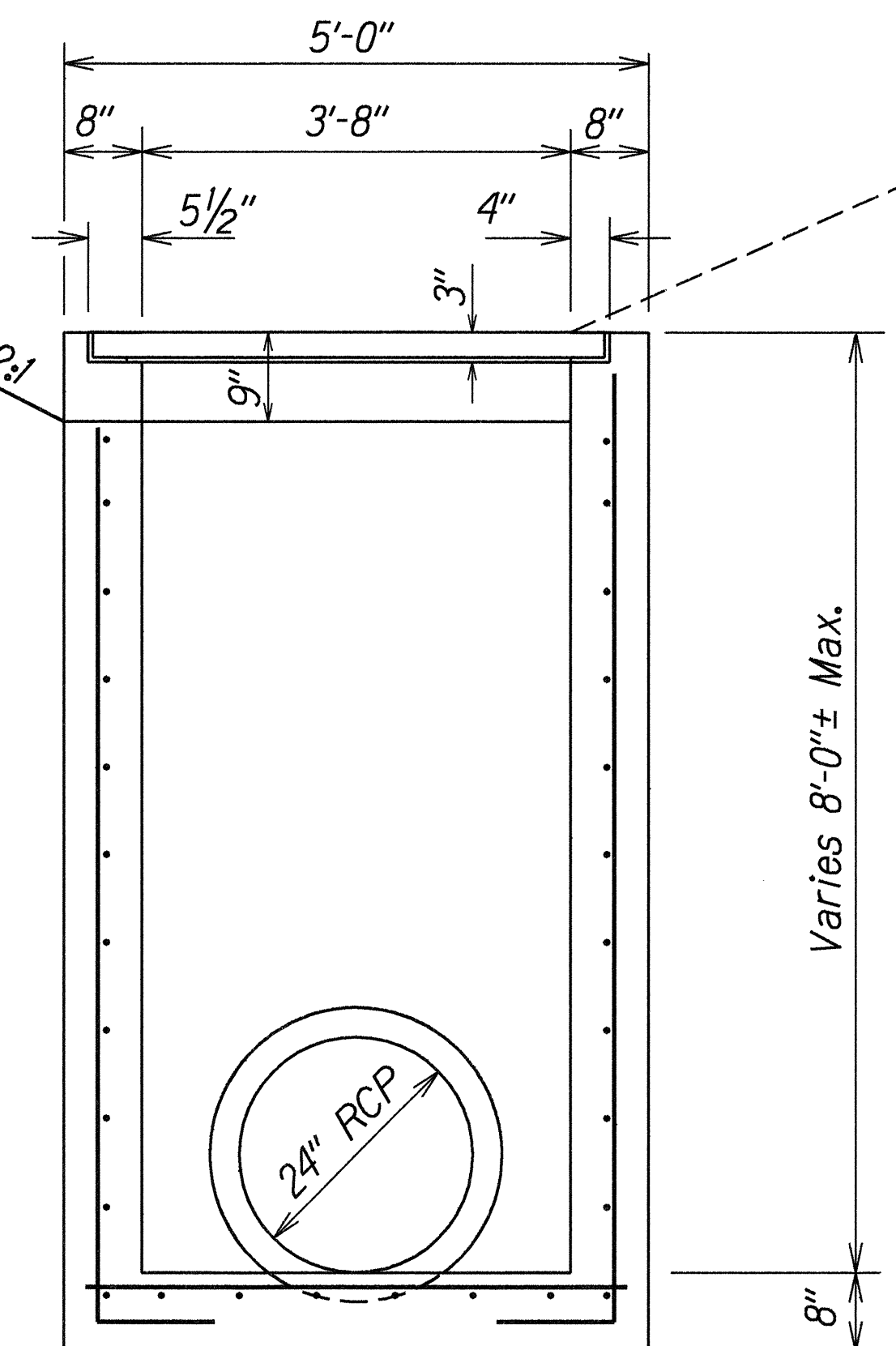
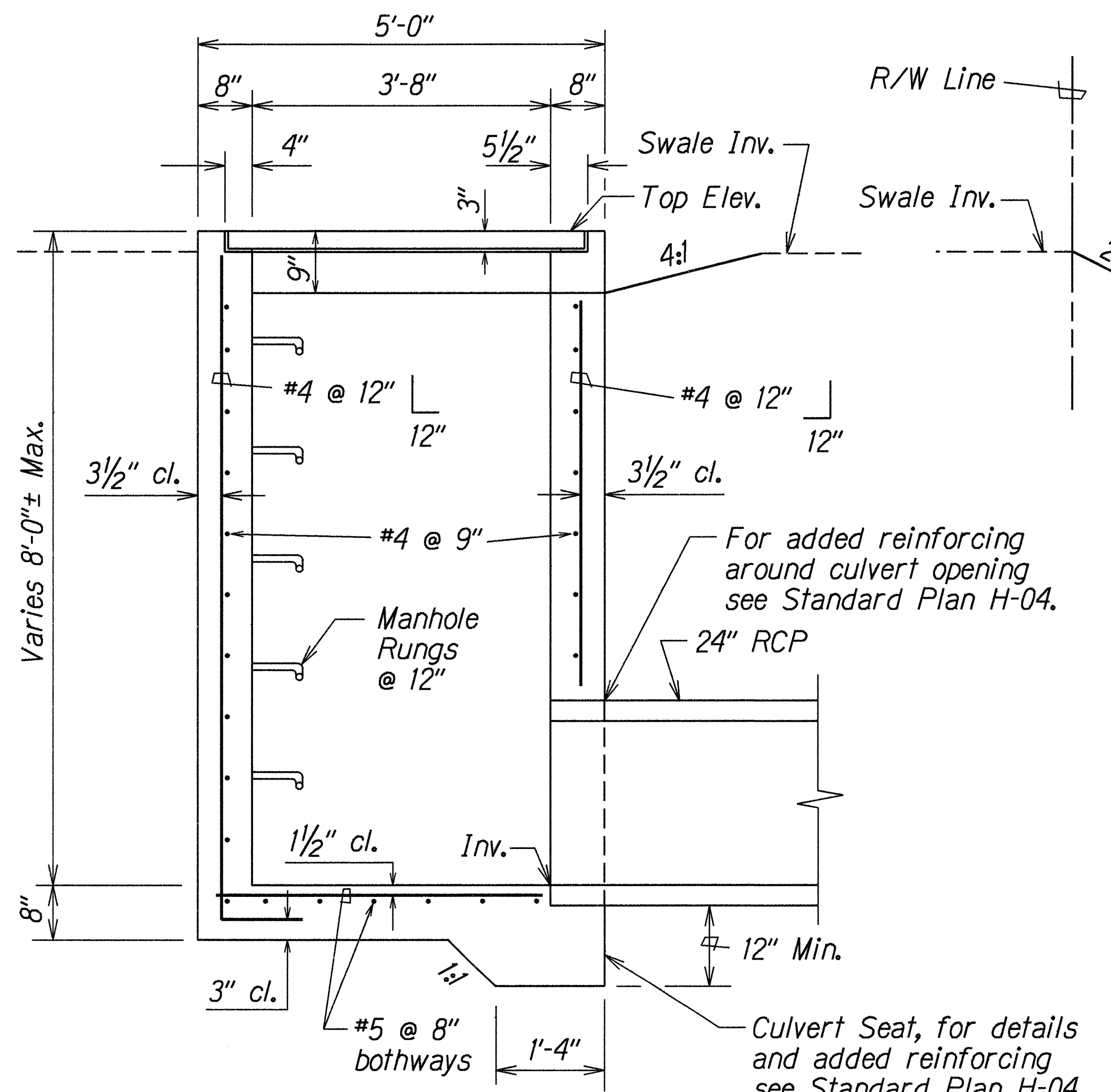
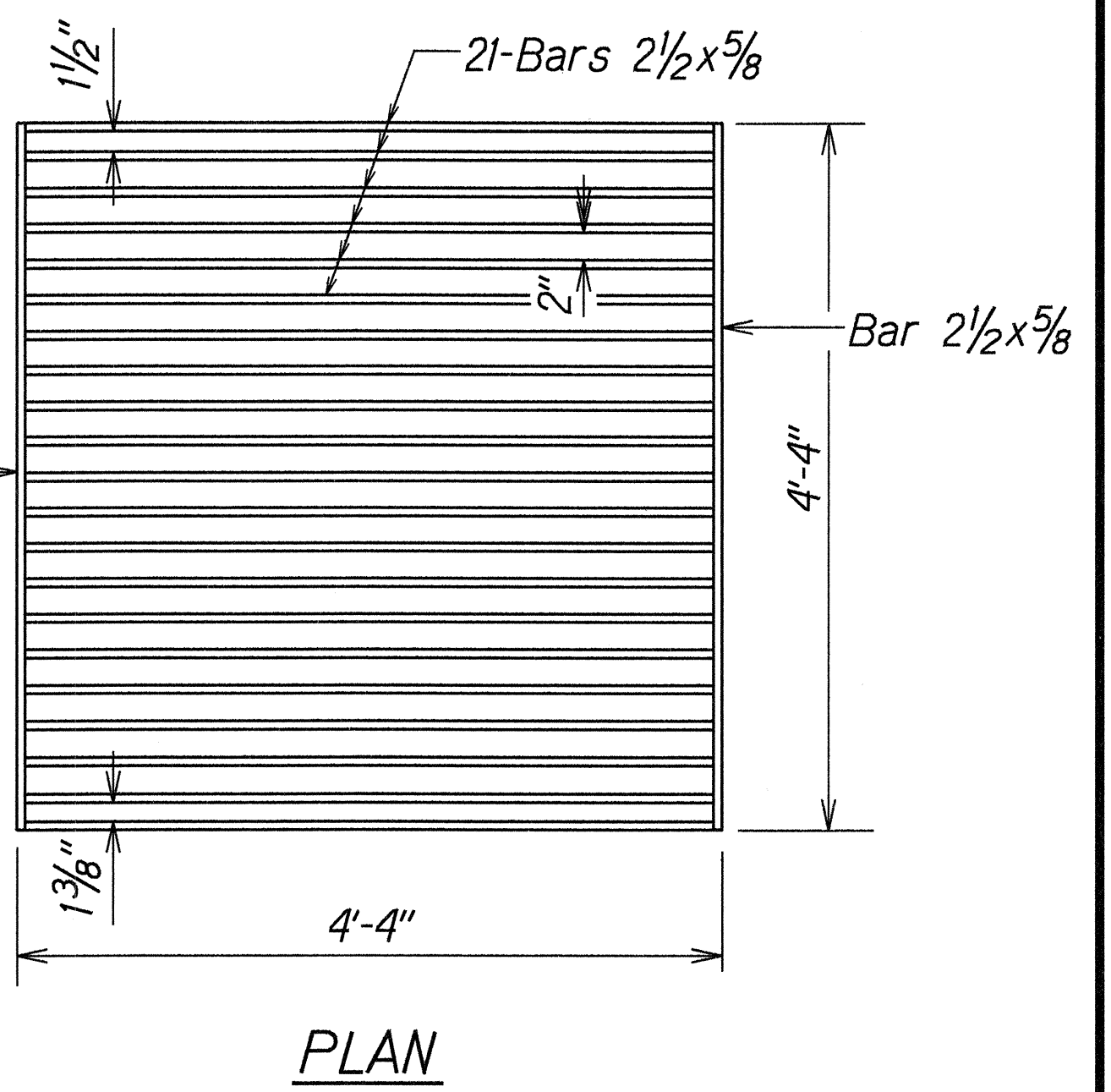
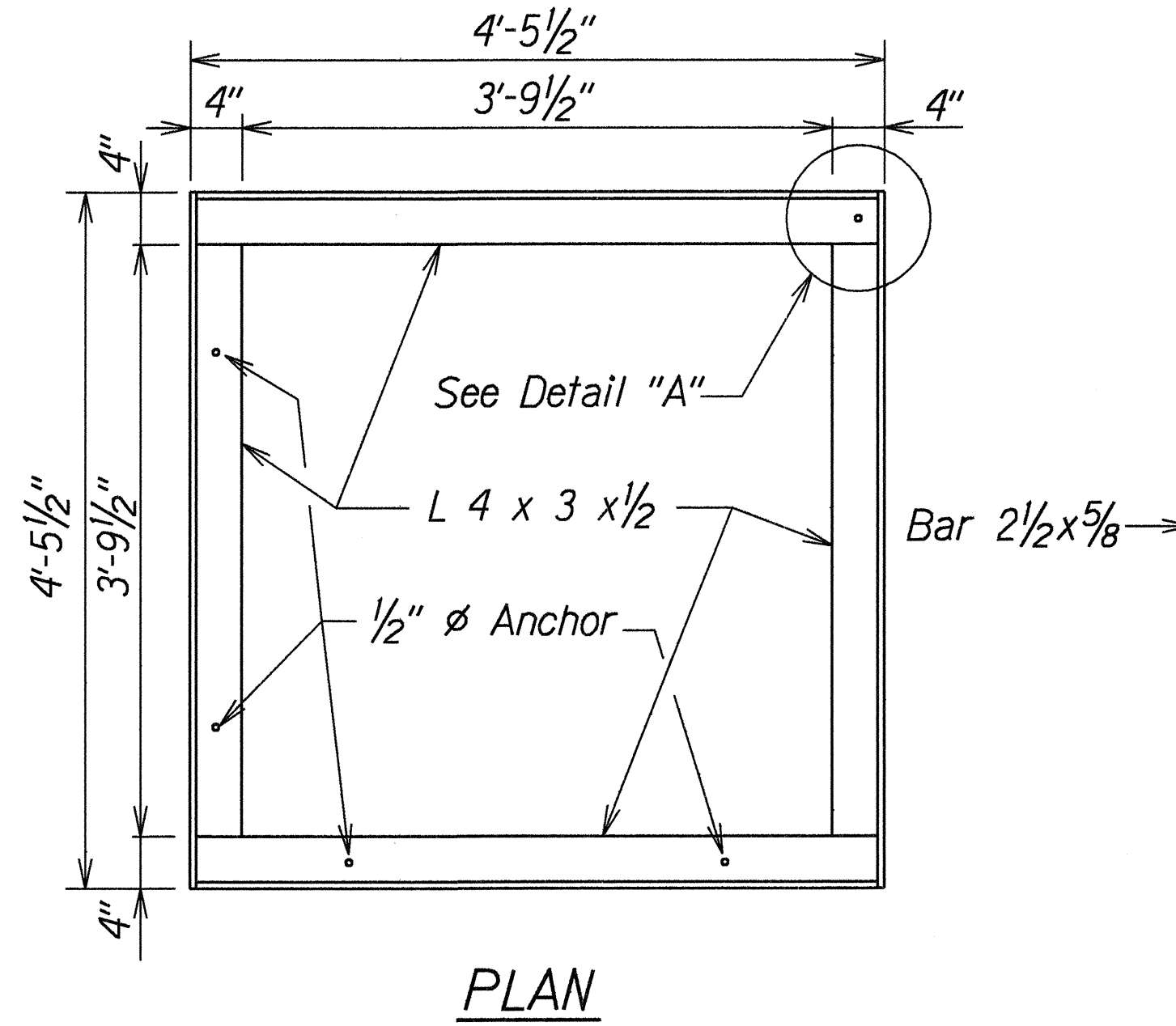
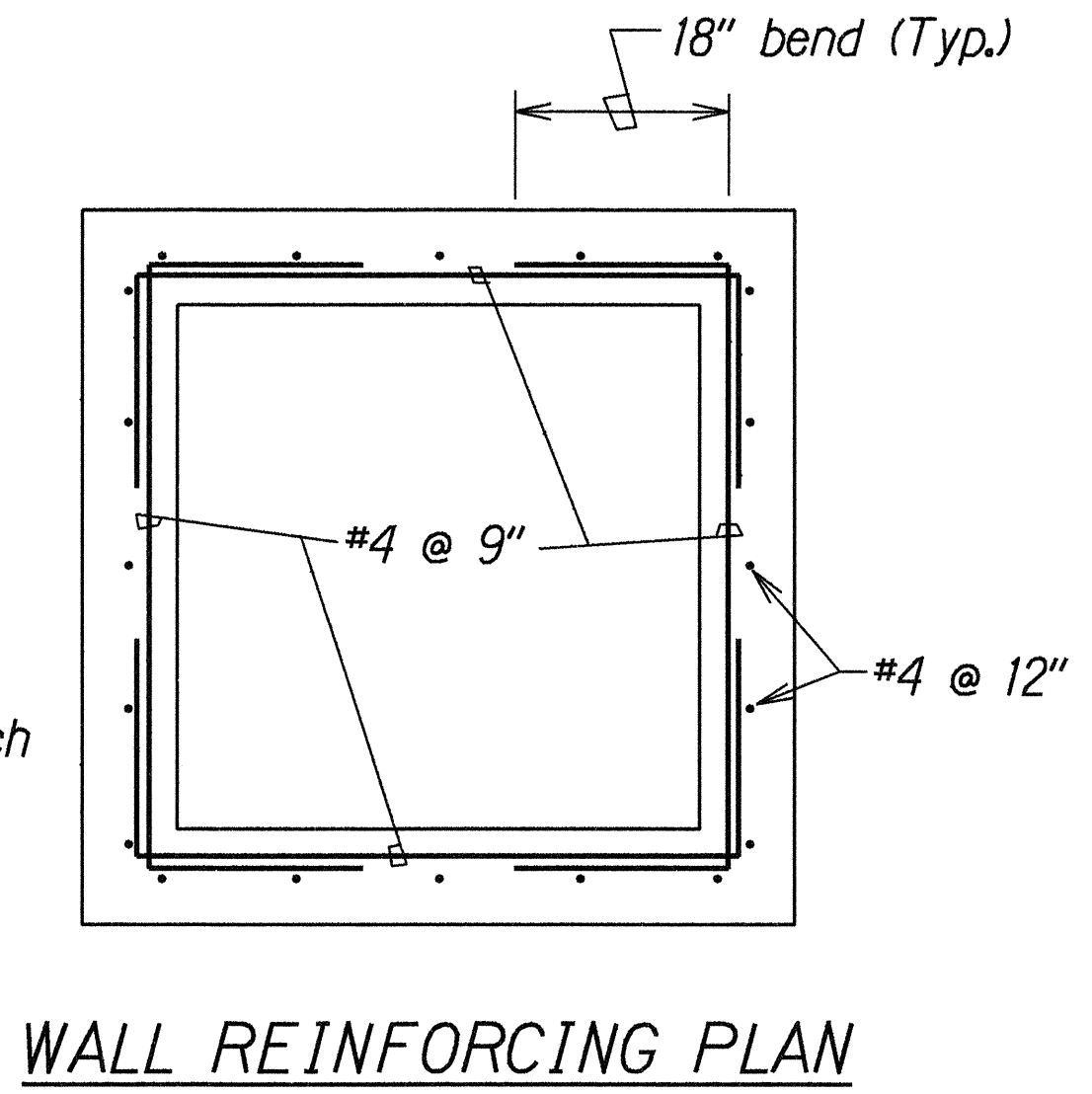
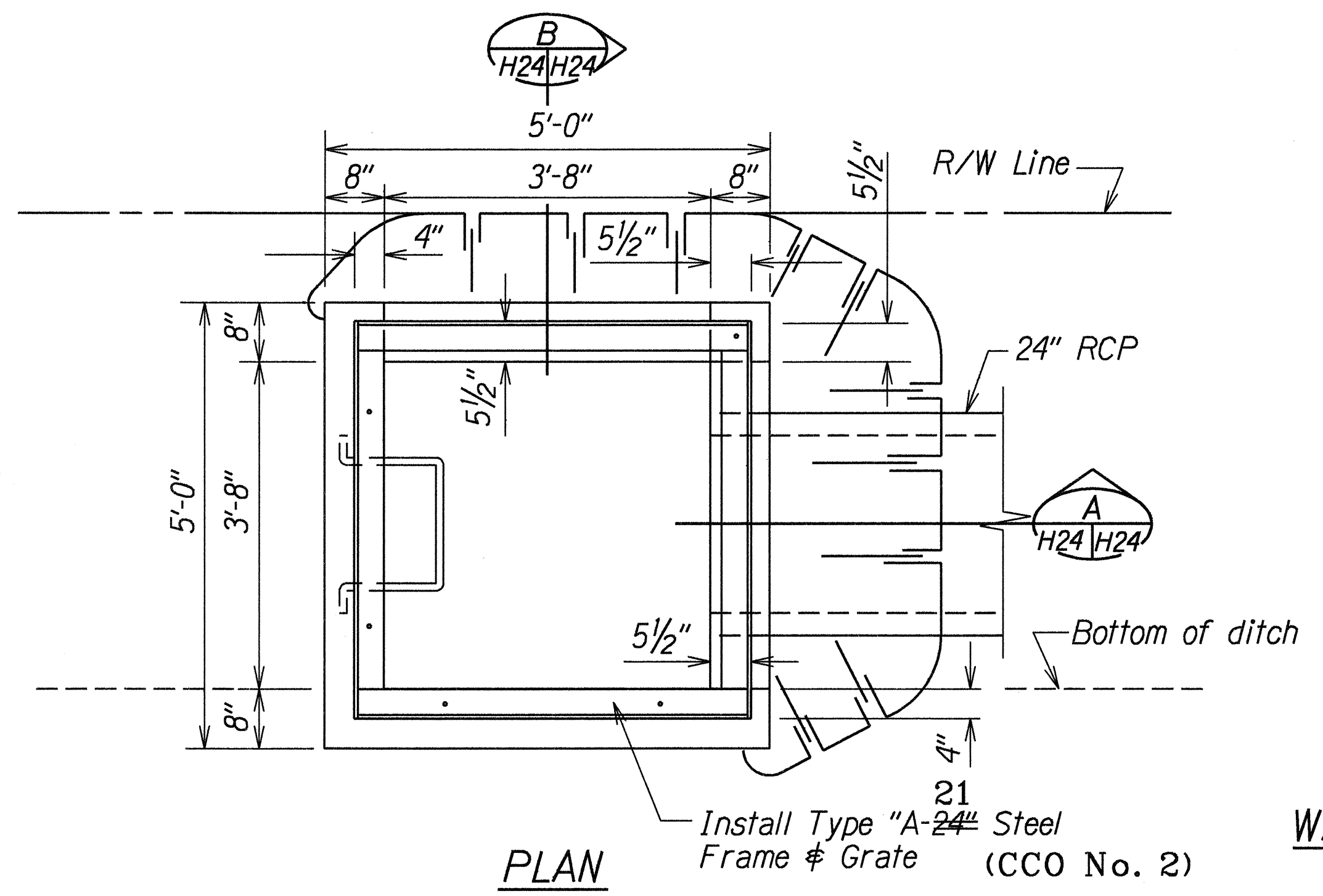
KAMEHAMEHA HWY. DRAINAGE IMP.  
Vic. of Sunset Beach Elementary School  
Project No. STP-083-1(35)

Scale: 3/4" = 1'-0" Date: Feb. 1996

SHEET No. H22 OF 24 SHEETS



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-083-1(35)      | 1996        | 28        | 40           |



DETAILS OF TYPE "SB" GDI

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

DETAIL OF STEEL FRAME

(CCO No. 2) TYPE "A-21" STEEL FRAME & GRATE

Scale: 1"=1'-0"

| LEGEND FOR AS-BUILT POSTINGS |                                     |
|------------------------------|-------------------------------------|
|                              | Squiggly line for as-built deletion |
|                              | Double line for as-built deletion   |
|                              | Text for as-built posting           |

| DATE    | REVISION                                                                |
|---------|-------------------------------------------------------------------------|
| 9/19/96 | Type 24 Steel frame and grate changed to Type 21 Steel frame and grate. |
| 7/15/96 | Added detail to show transition into Type "SB" GDI                      |

|                                                                      |                 |
|----------------------------------------------------------------------|-----------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION |                 |
| <b>DRAINAGE DETAILS</b>                                              |                 |
| KAMEHAMEHA HWY. DRAINAGE IMP.                                        |                 |
| Vic. of Sunset Beach Elementary School                               |                 |
| Fed. Aid Project No. STP-083-1(35)                                   |                 |
| Scale: As Shown                                                      | Date: Feb. 1996 |
| SHEET No. H24 OF 24 SHEETS                                           |                 |