

PROJECT: KALANIANA'OLE HIGHWAY RESURFACING, Ainakoa Avenue to West Hind Drive
PROJECT NO. : NH-072-1(47)

DRAINAGE NOTES:

- | | |
|--------------------------|--|
| ORIGINAL
PLAN | SURVEY PLOTTED BY _____ DATE <u>5/3/99</u> |
| NOTE BOOK
th3 and cka | DRAWN BY <u>A. Namura</u> |
| th3 and cka | TRACED BY _____ |
| th3 and cka | DESIGNED BY <u>C. Matsuda, R. Kawamura</u> |
| th3 and cka | QUANTITIES BY _____ |
| th3 and cka | CHECKED BY _____ |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

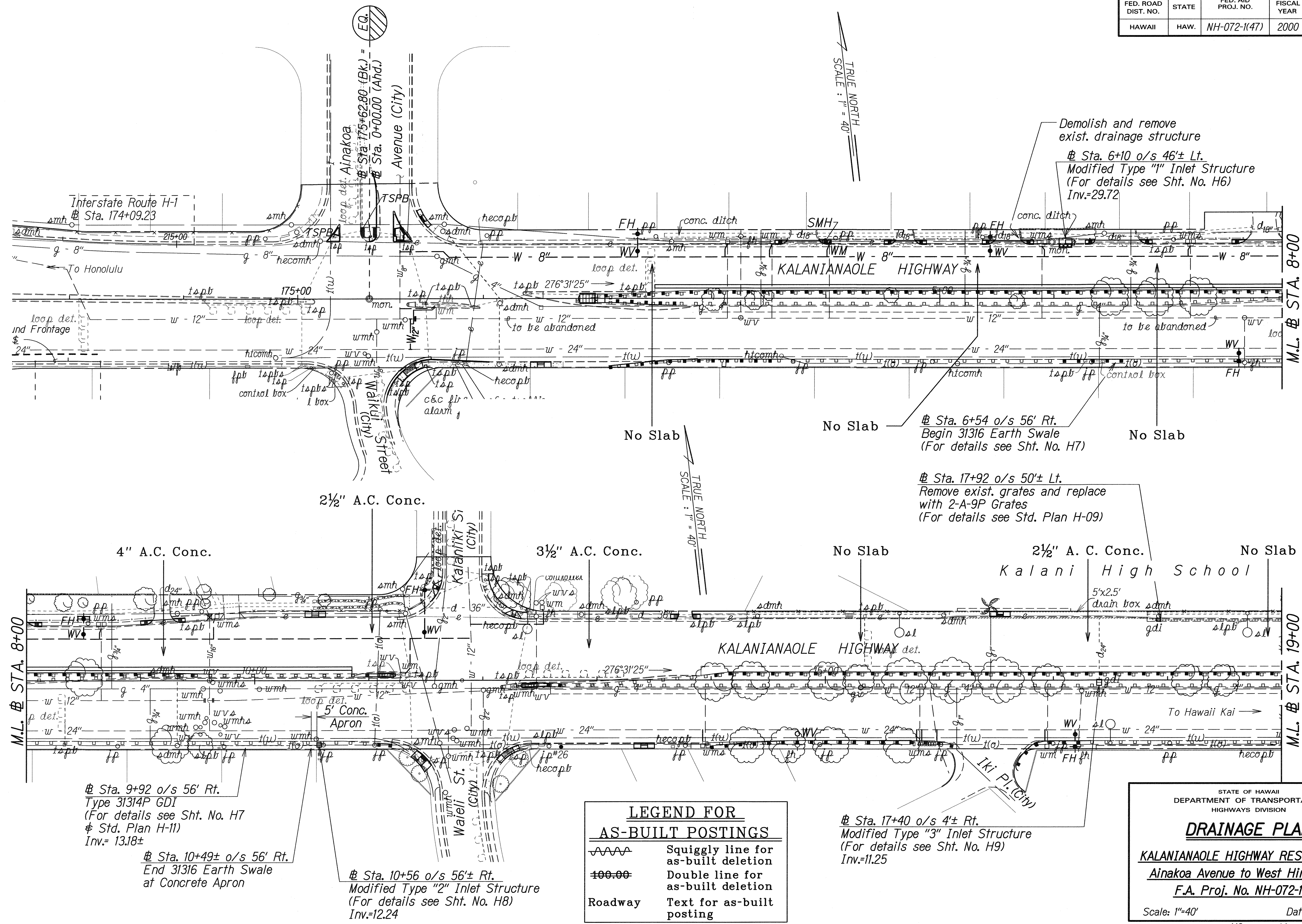
DRAINAGE SUMMARY

KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(K47)

Date: Aug. 1999

SHEET No. *HI* OF *14* SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	39	89



DATE	11/12/98
SURVEY PLOTTED BY	...
DRAWN BY	...
DESIGNED BY	...
CHECKED BY	...
CONCURRED 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

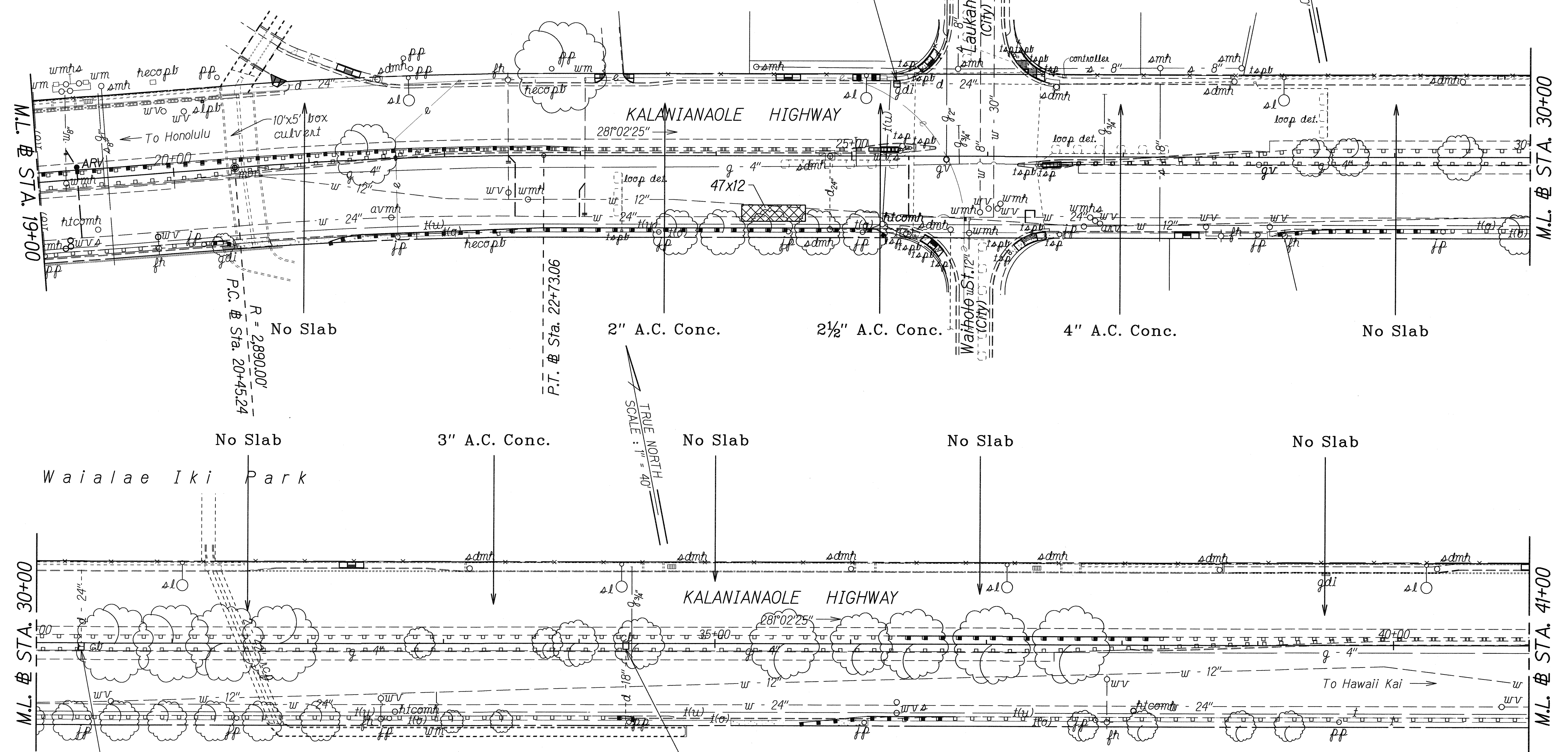
DRAINAGE PLAN
KALANIANA'OLE HIGHWAY RESURFACING
Ainaloa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)

Scale: 1"=40' Date: Aug. 1999

SHEET No. H2 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	40	89

Kalani High School



SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
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

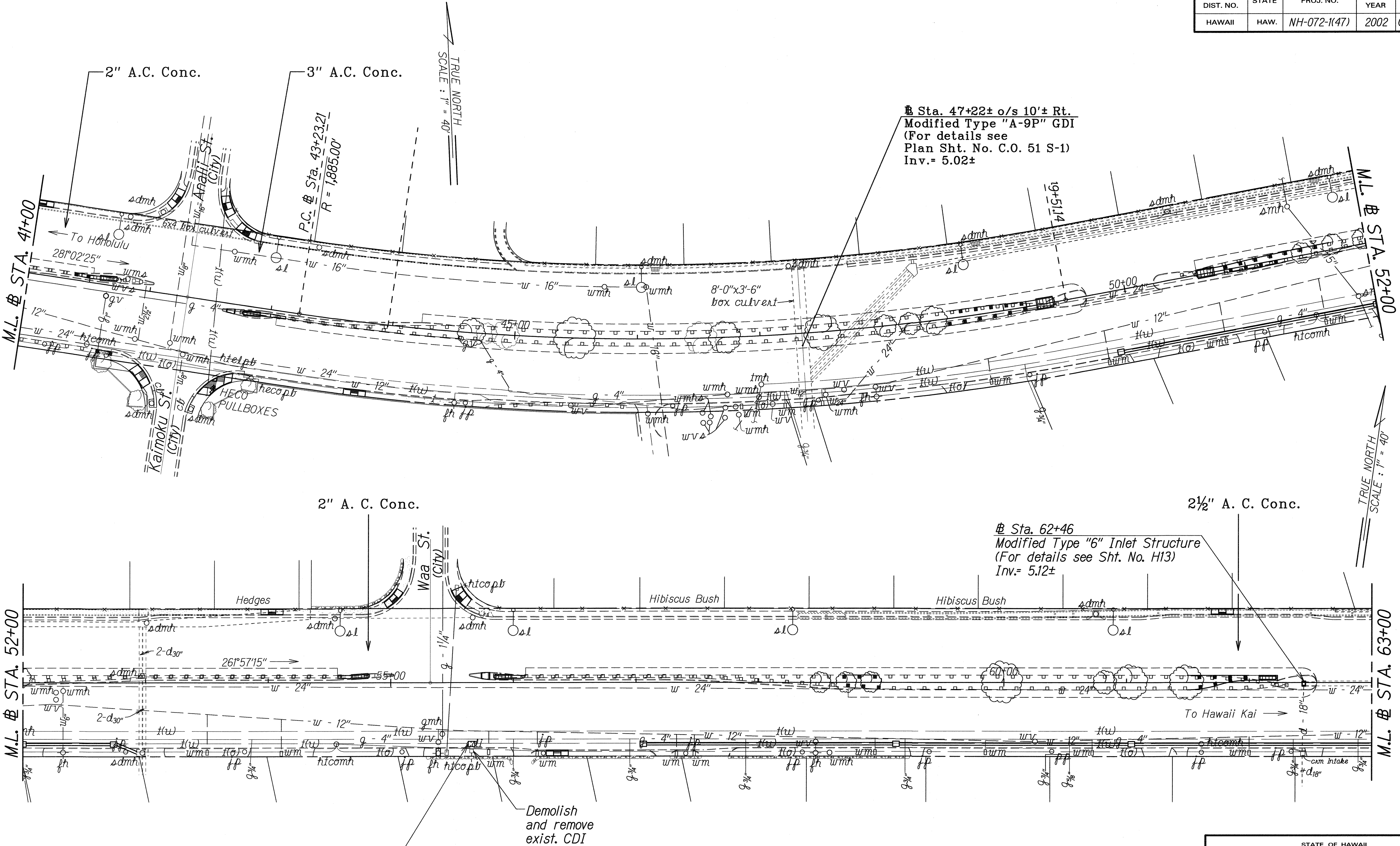
KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)

Scale: 1"=40' Date: Aug. 1999

SHEET No. H3 OF 14 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2002	C.O. 41	89



SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
DATE	

Sta. 55+66 o/s 50' Rt.
Type "A-9P" GDI
(For details see Sht. No. H12)
Inv.=6.67

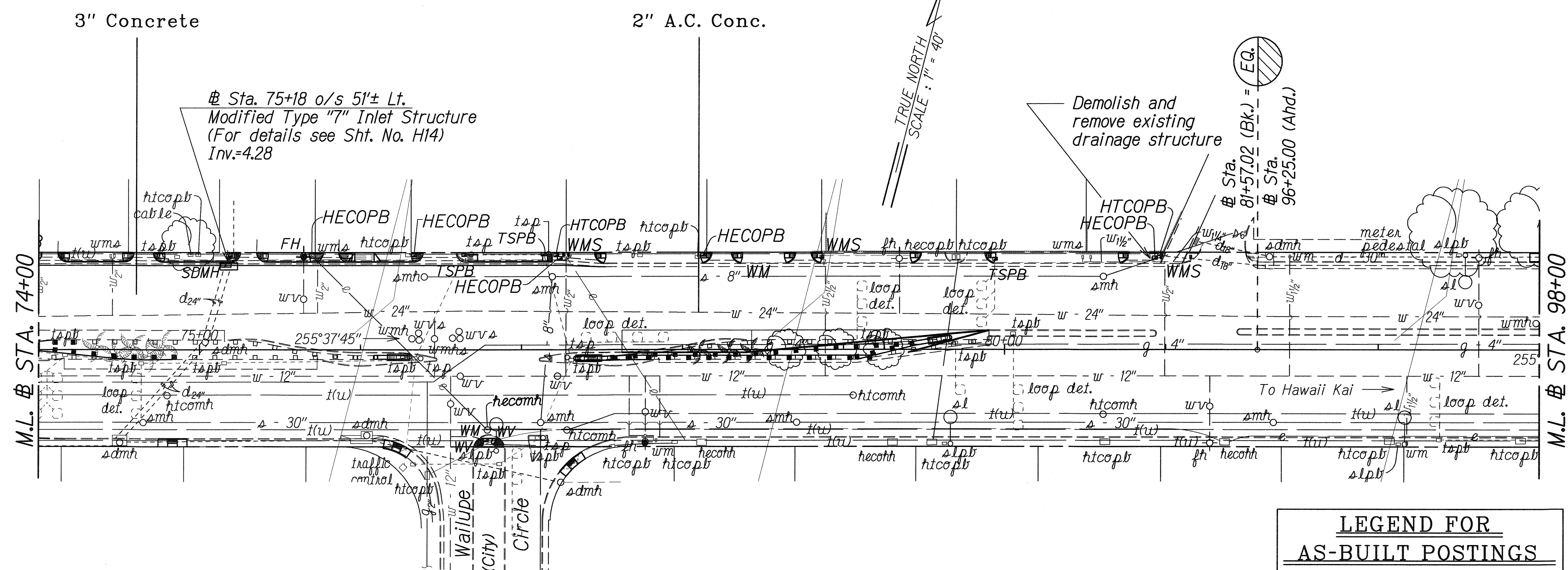
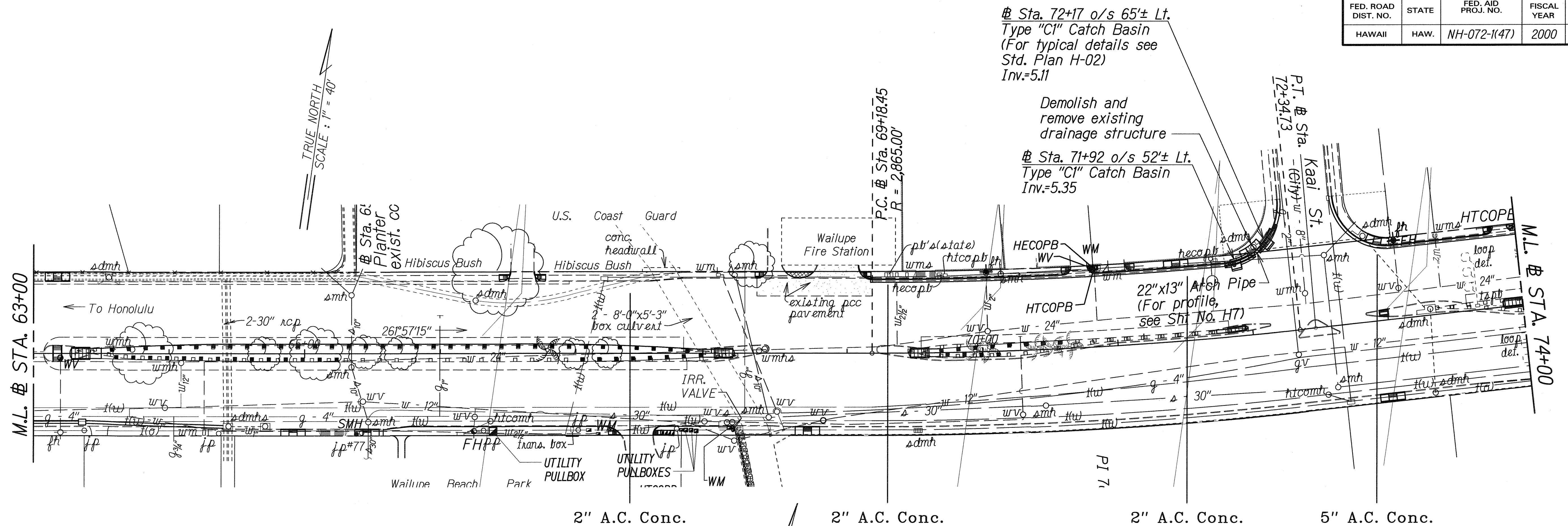
LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

DATE	REVISION
9/12/01	Added Modified Type "A-9P" GDI @ Sta. 47+22± o/s 10'± Rt.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN
KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)
Scale: 1"=40' Date: Sept. 2001
SHEET No. H4 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	42	89



ORIGINAL PLAN	DATE
NOTE: WORK DESIGNED BY C. Matsuda, P. Kawamura	11/16/99
DESIGNED BY C. Matsuda, P. Kawamura	
CHECKED BY S. H. H. H.	

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

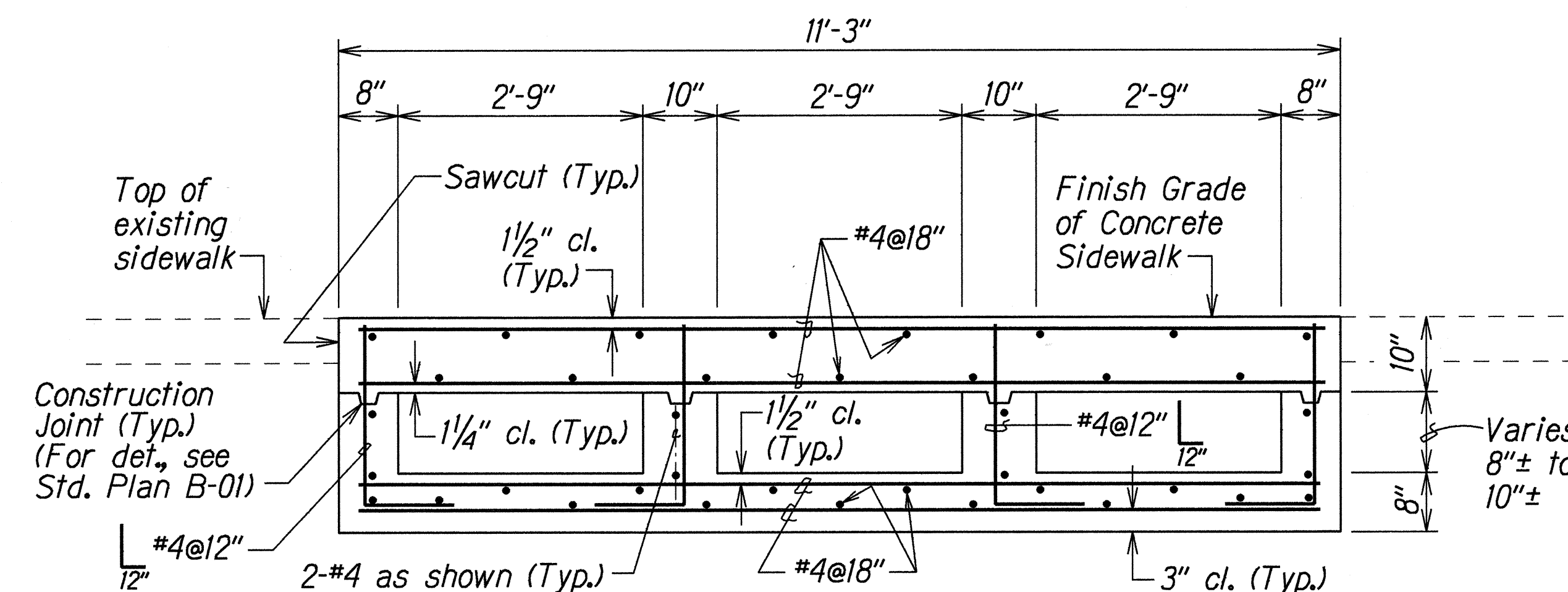
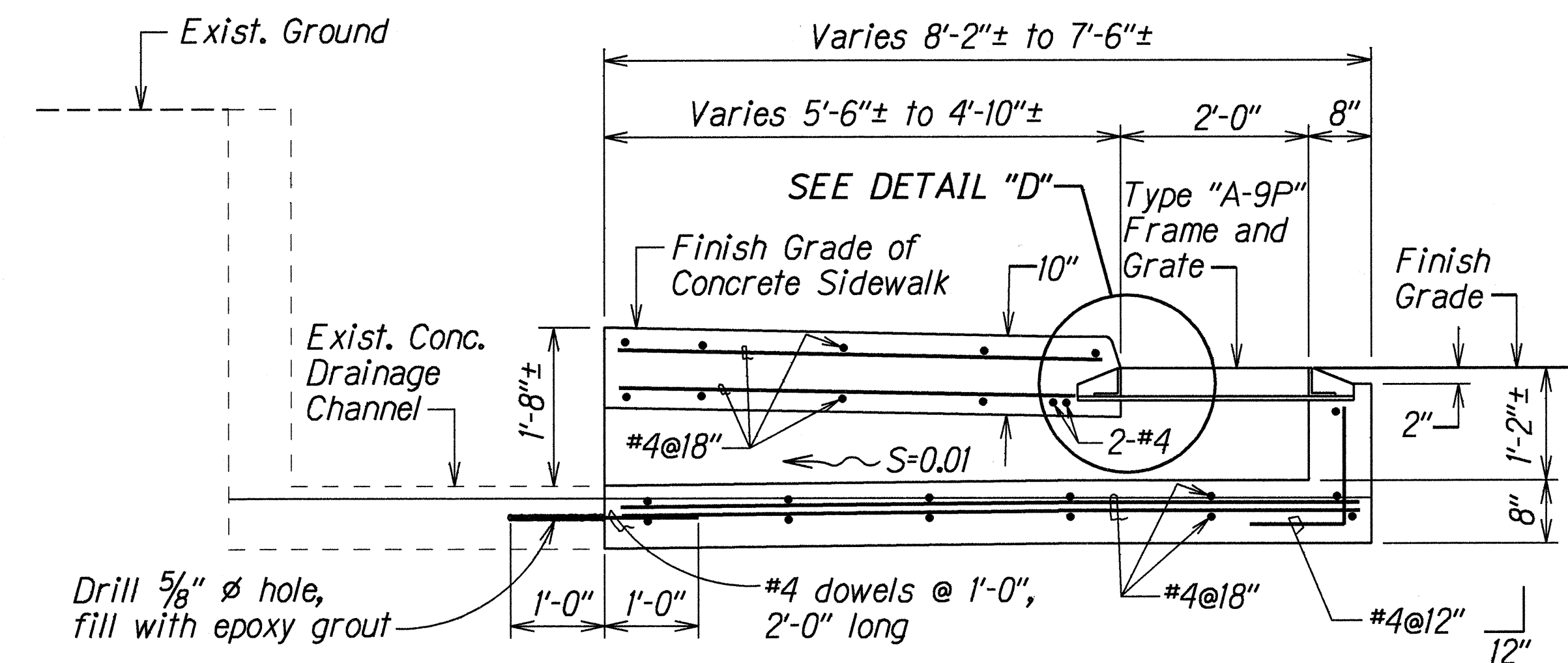
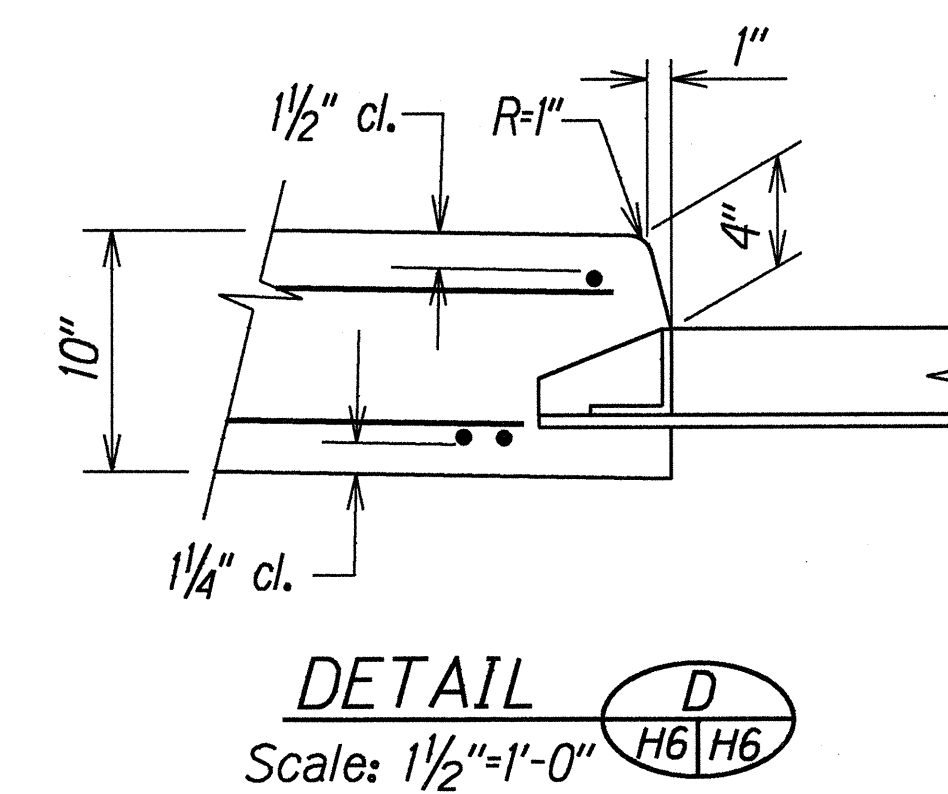
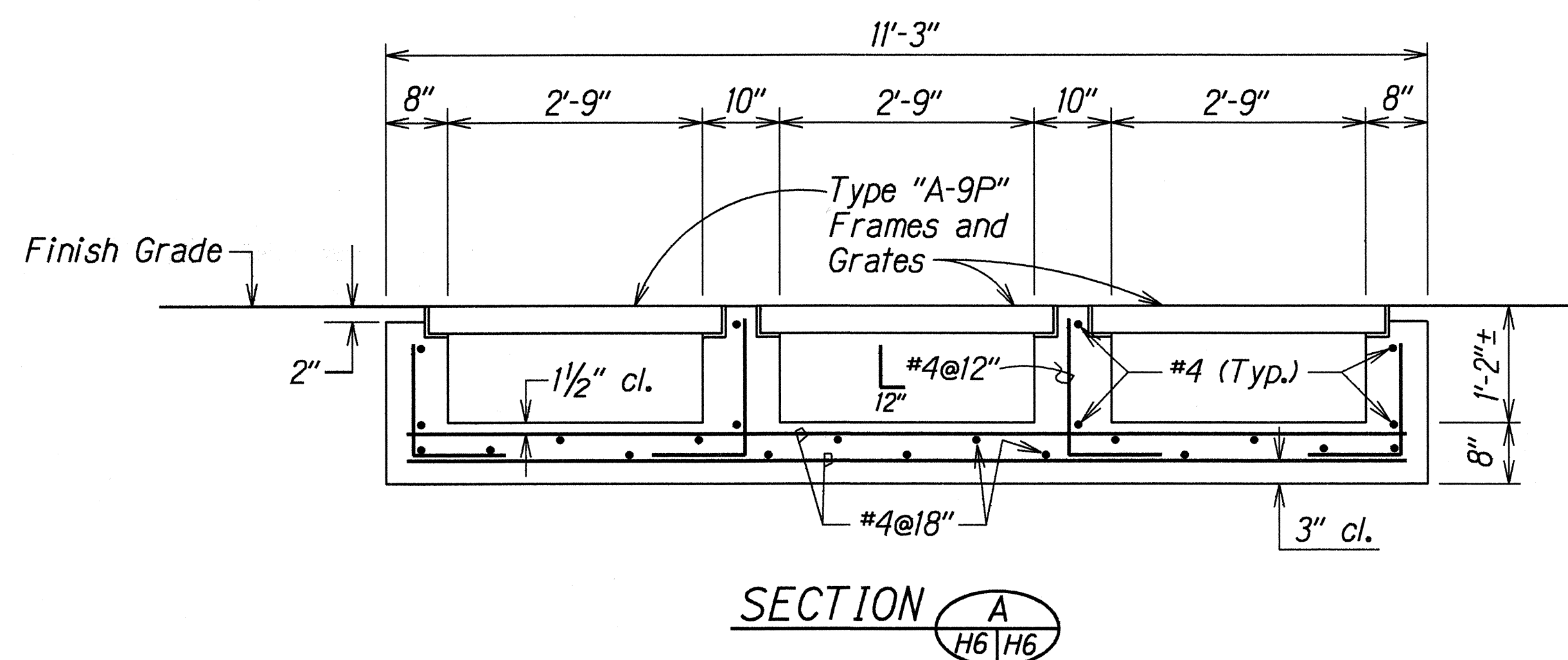
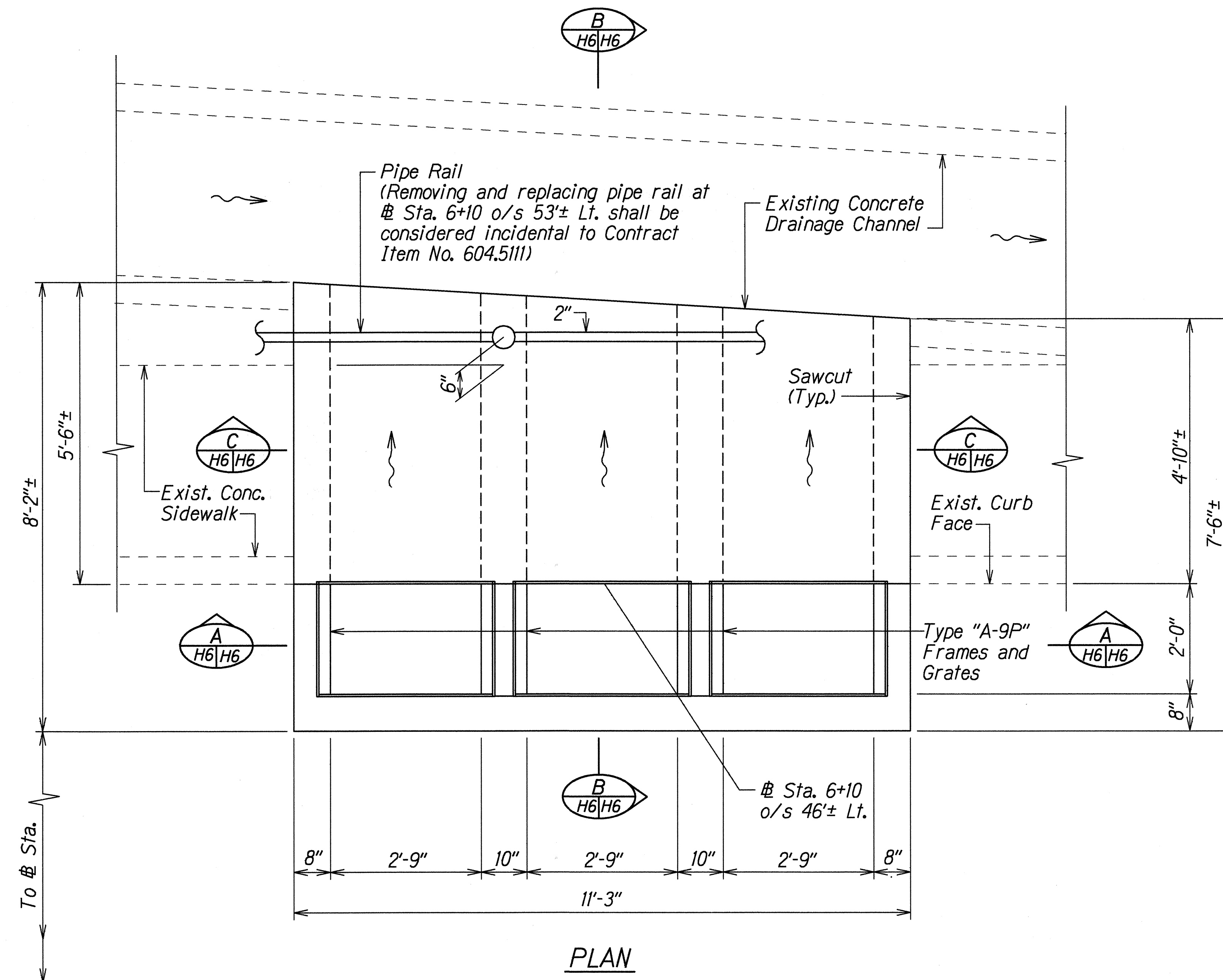
KALANIANA'OLE HIGHWAY RESURFACING
Ainako Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)

Scale: 1"=40' Date: Aug. 1999

SHEET No. **H5** OF **14** SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	43	89

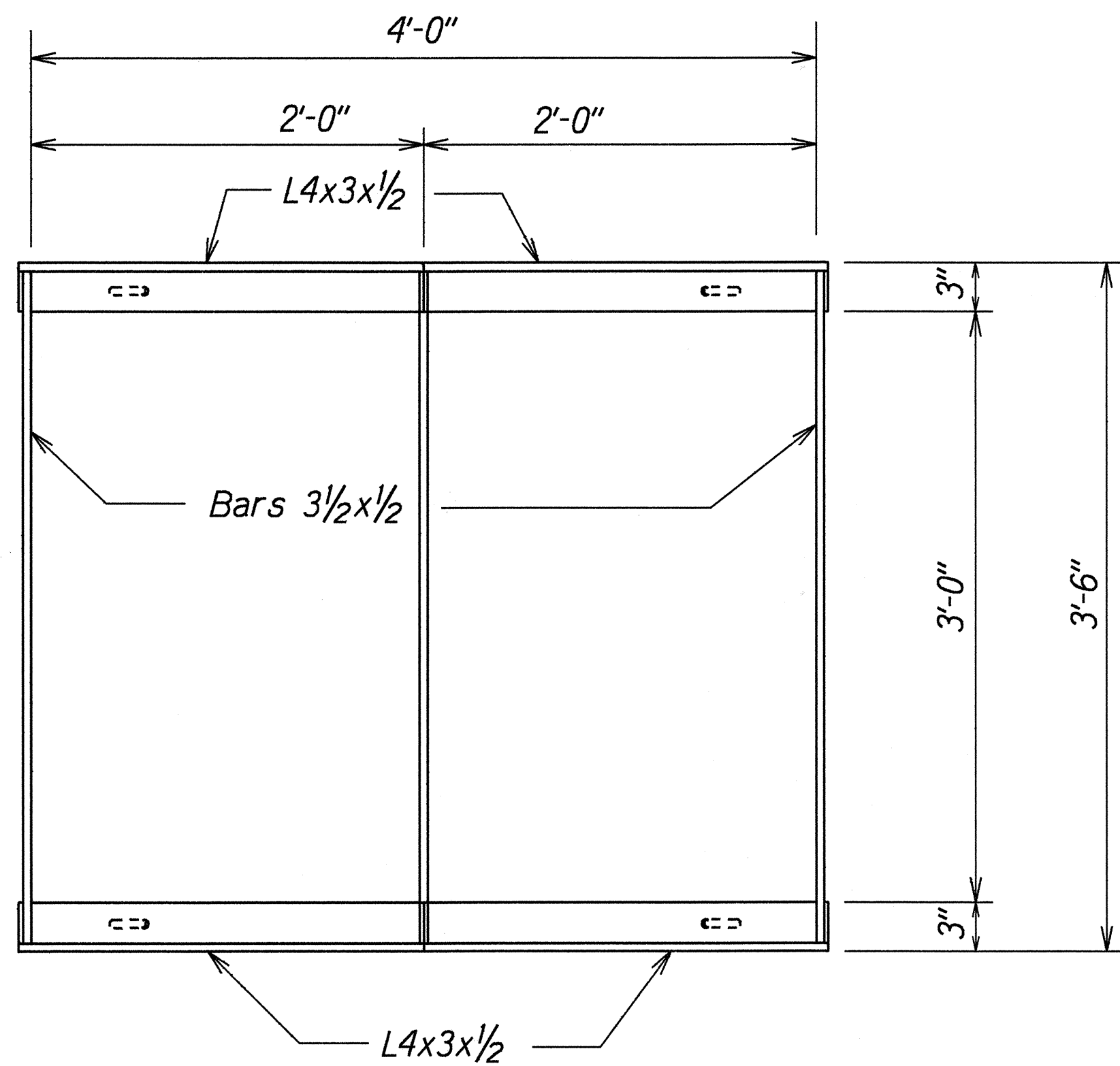


DETAILS OF TYPE "1" INLET STRUCTURE

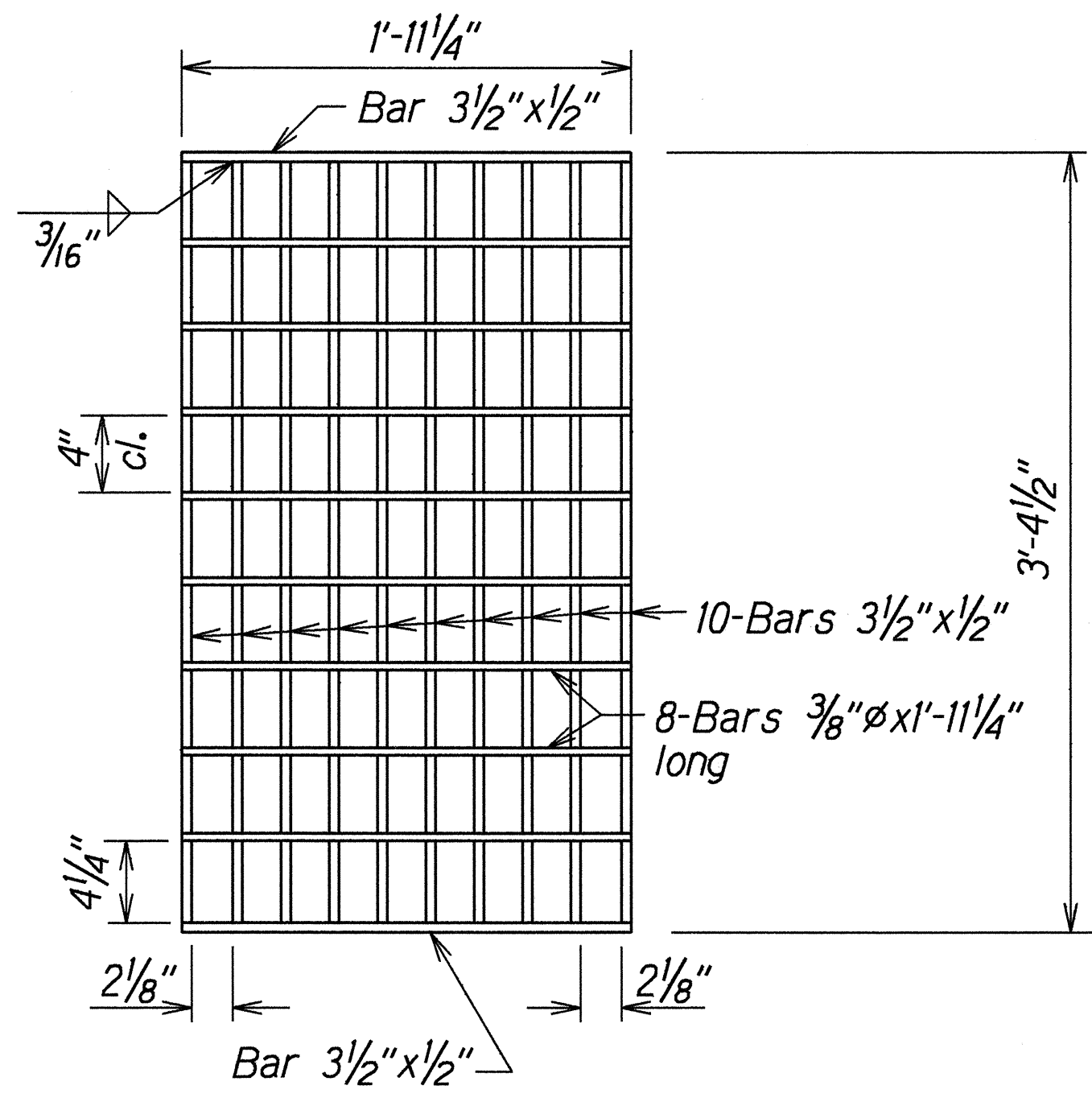
SURVEY PLOTTED BY	DATE	1/15/99
DRAWN BY		
TRACED BY		
NOTED BY		
CHECKED BY		
ORIGINAL PLAN		
NOTE BOOK		
QUANTITIES BY		
CHECKED BY		

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DRAINAGE DETAILS
KALANIANA'OLE HIGHWAY RESURFACING Ainakoa Avenue to West Hind Drive F.A. Proj. No. NH-072-1(47)
Scale: 3/4"=1'-0" Date: Aug. 1999
SHEET No. H6 OF 14 SHEETS

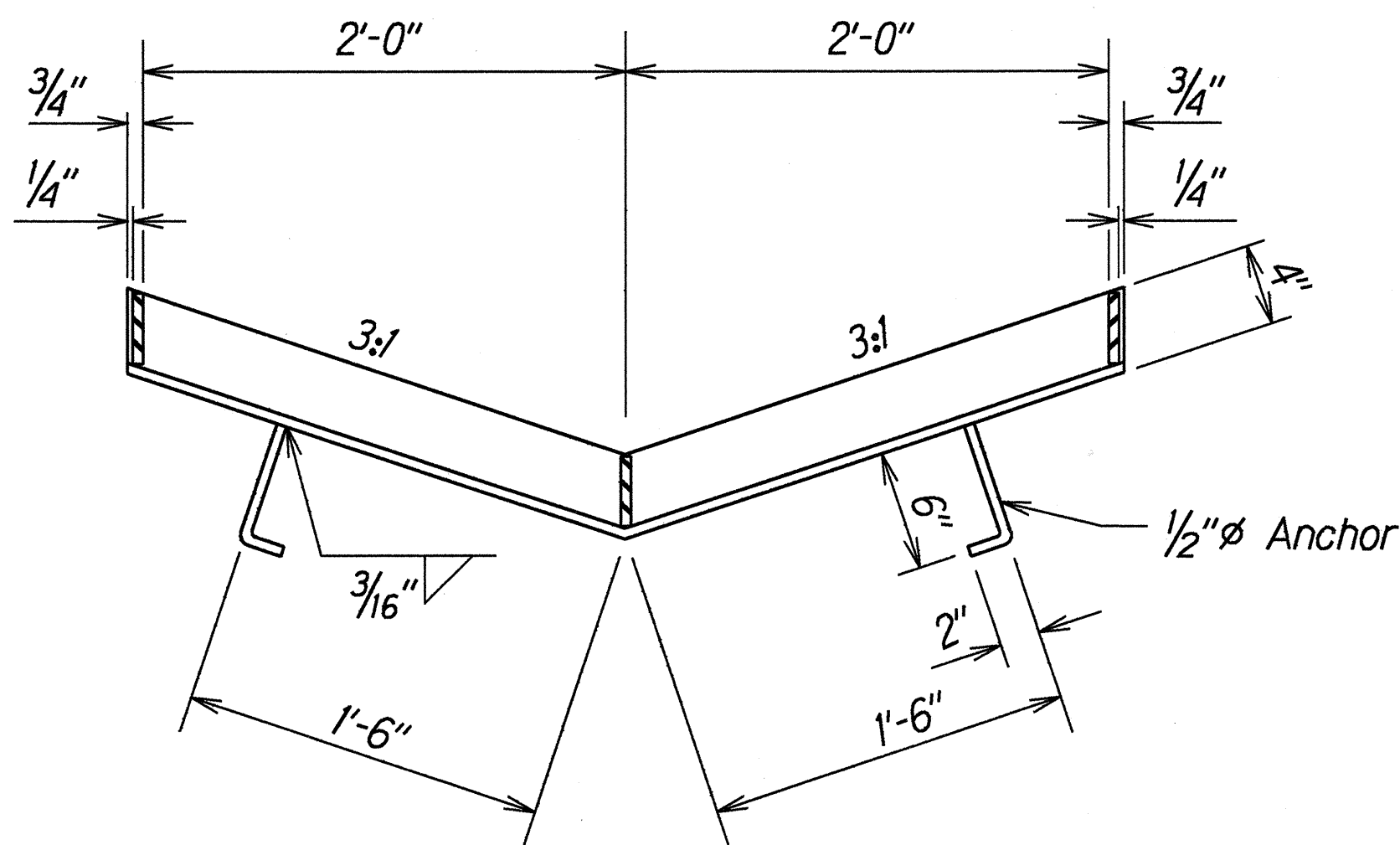
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	44	89



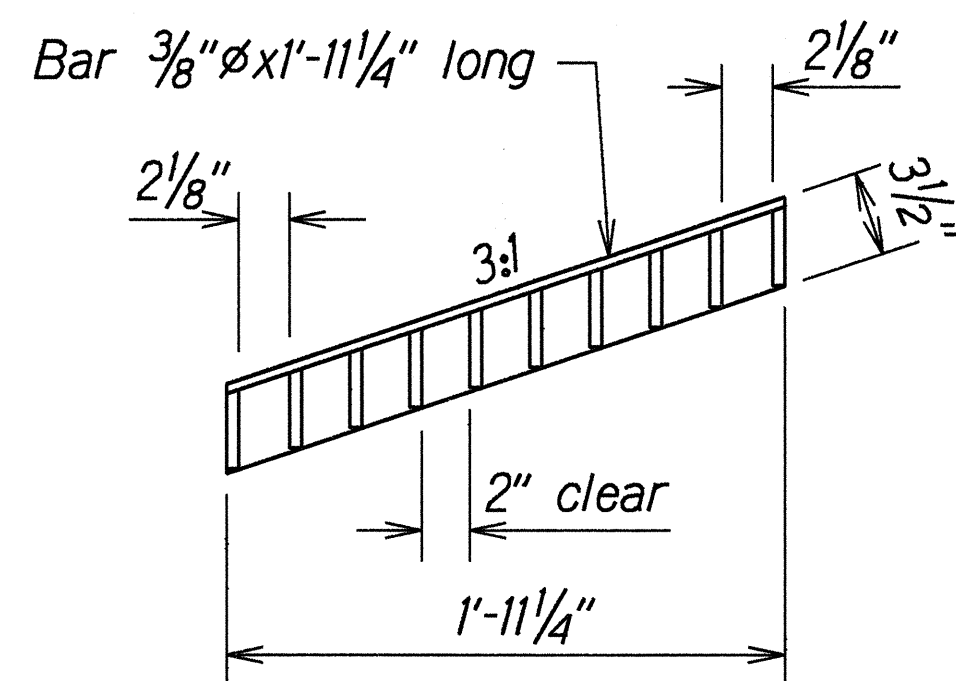
PLAN



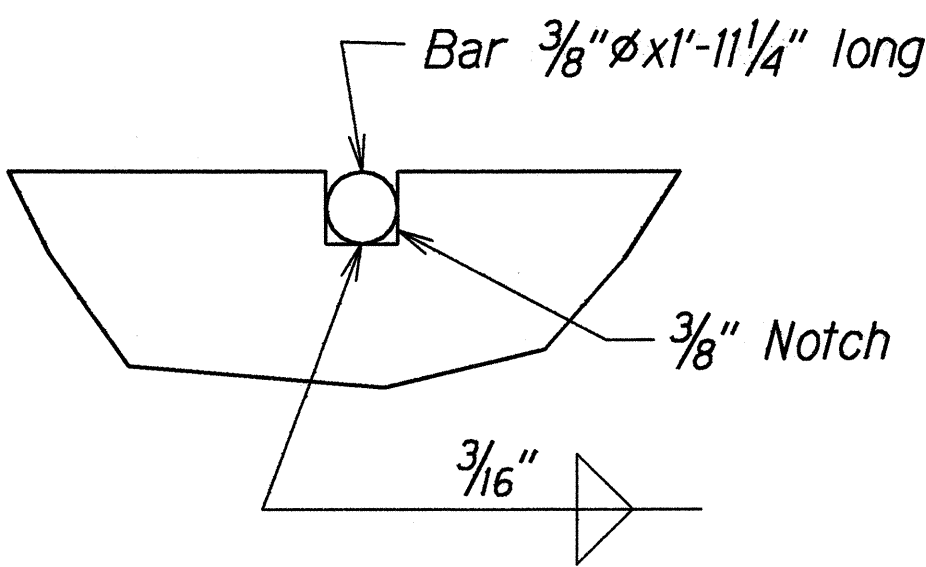
PLAN



SECTION
FRAME



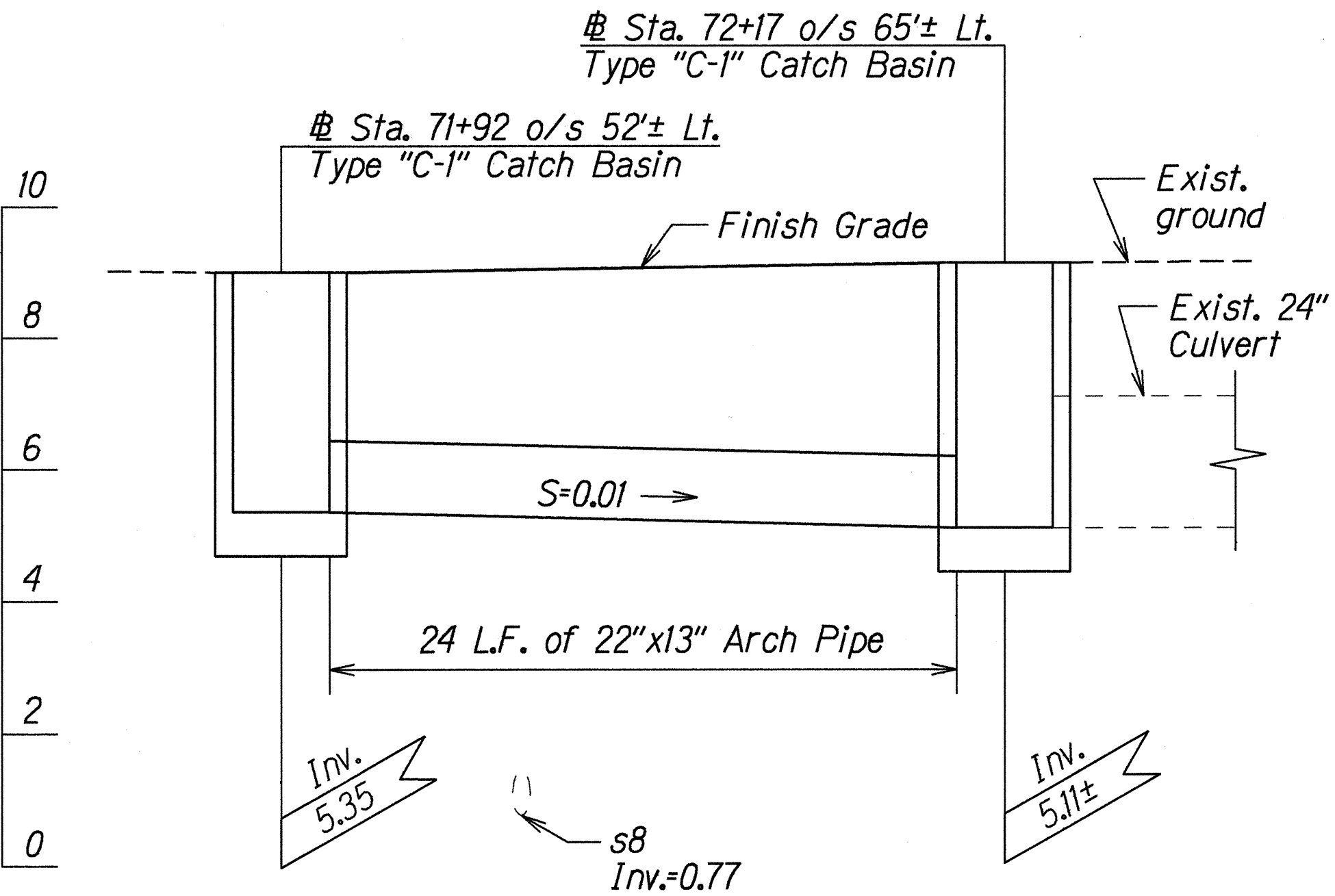
SECTION
GRATE



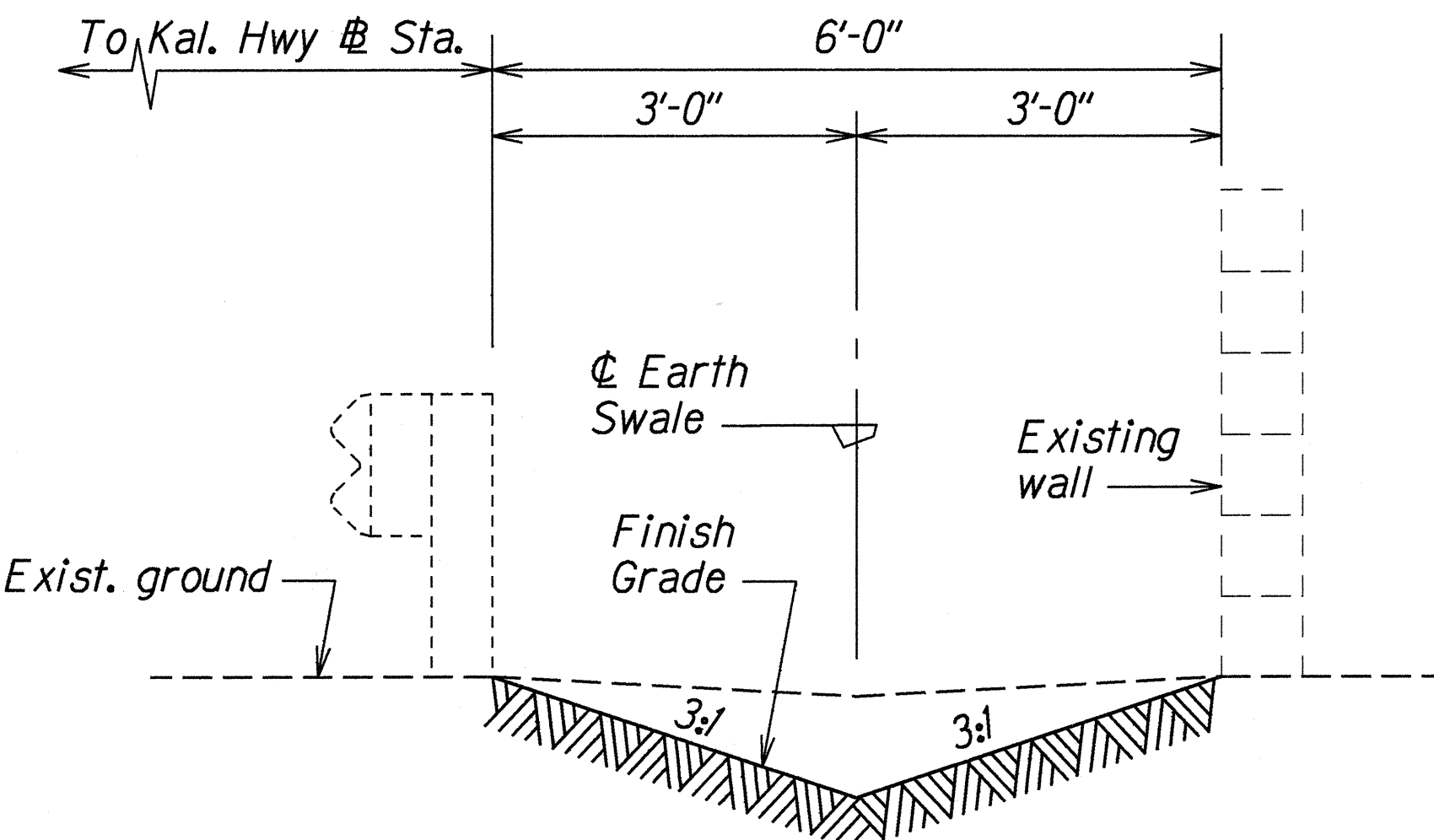
NOTCH DETAIL
Full Size

NOTE:
All welds 3/8" unless otherwise noted.

DETAILS OF TYPE 31314P STEEL FRAME AND GRATES
Scale: 1 1/2"=1'-0"



PROFILE-FROM STA. 71+92 o/s 52'± LT.
TO STA. 72+17 o/s 65'± LT.
Scale: Horiz. 1"=5'
Vert. 1"=2'



DETAIL OF 31316 EARTH SWALE
Scale: 3/4"=1'-0"

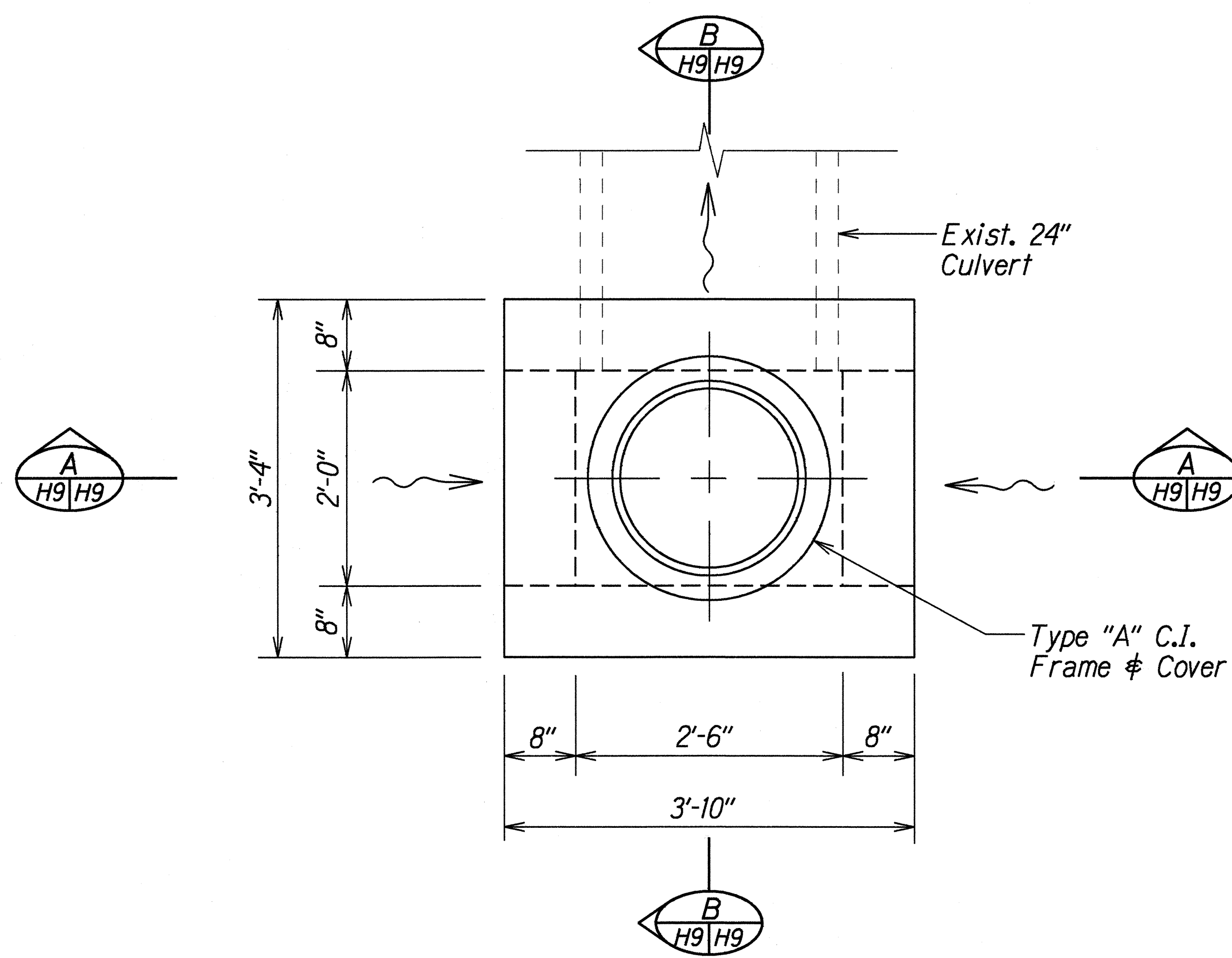
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)
Scale: As Shown Date: Aug. 1999

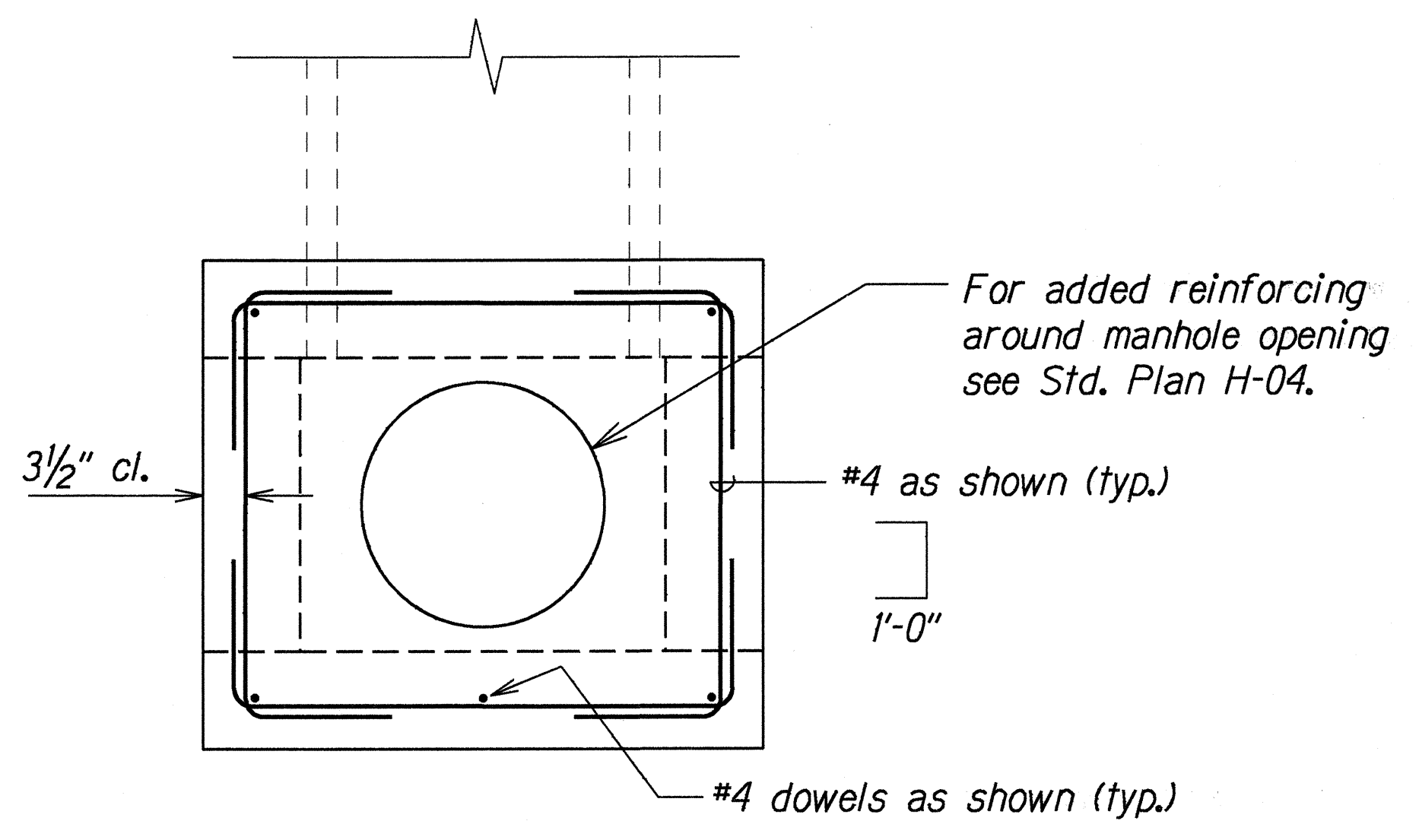
SHEET No. H7 OF 14 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	3/16/99
TRACED BY	
CHECKED BY	
NOTED BY	
DESIGNED BY	
CHECKED BY	
DESIGNED BY	
CHECKED BY	

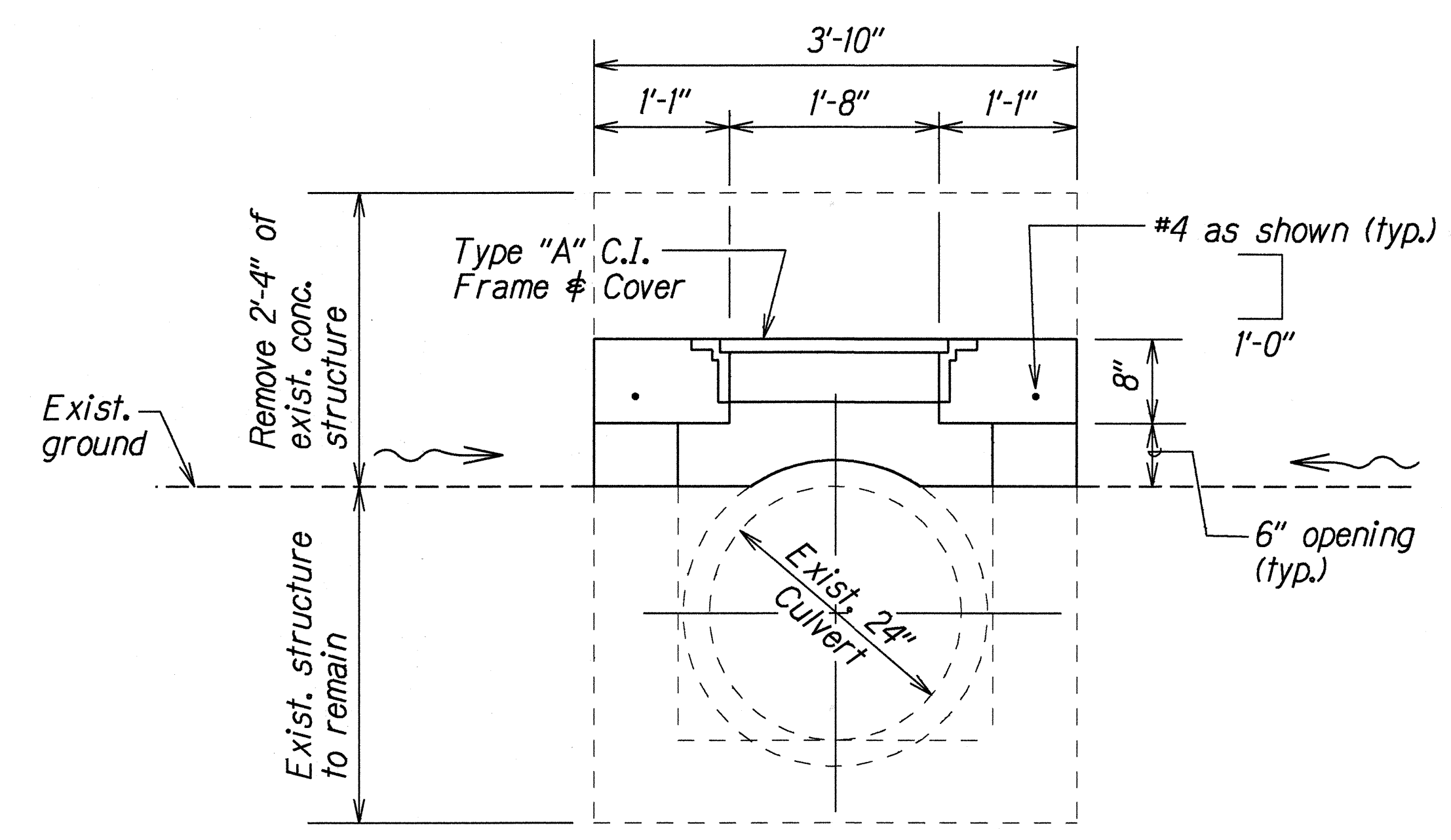
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	46	89



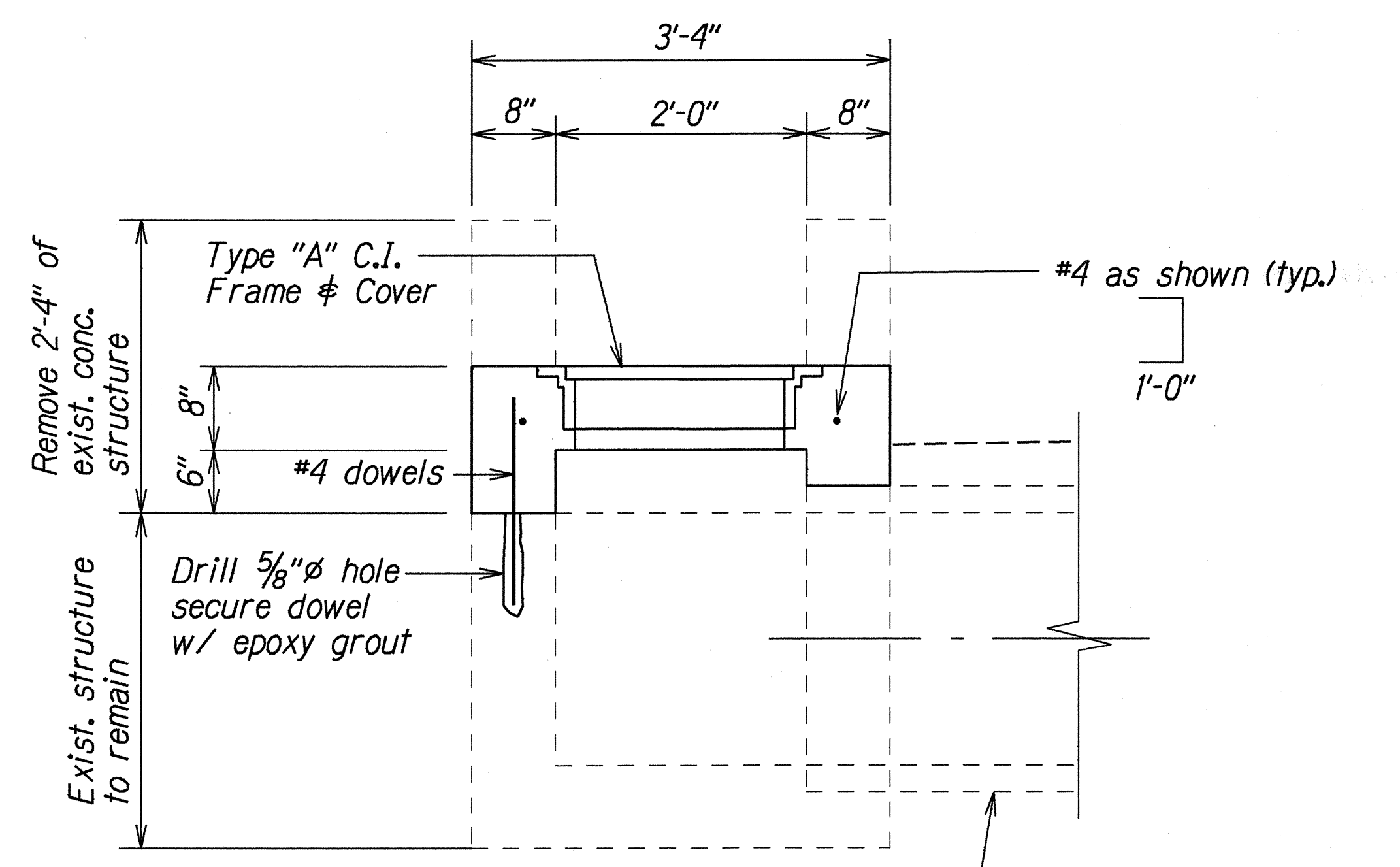
PLAN



TOP SLAB REINFORCING



SECTION A
H9/H9



SECTION B
H9/H9

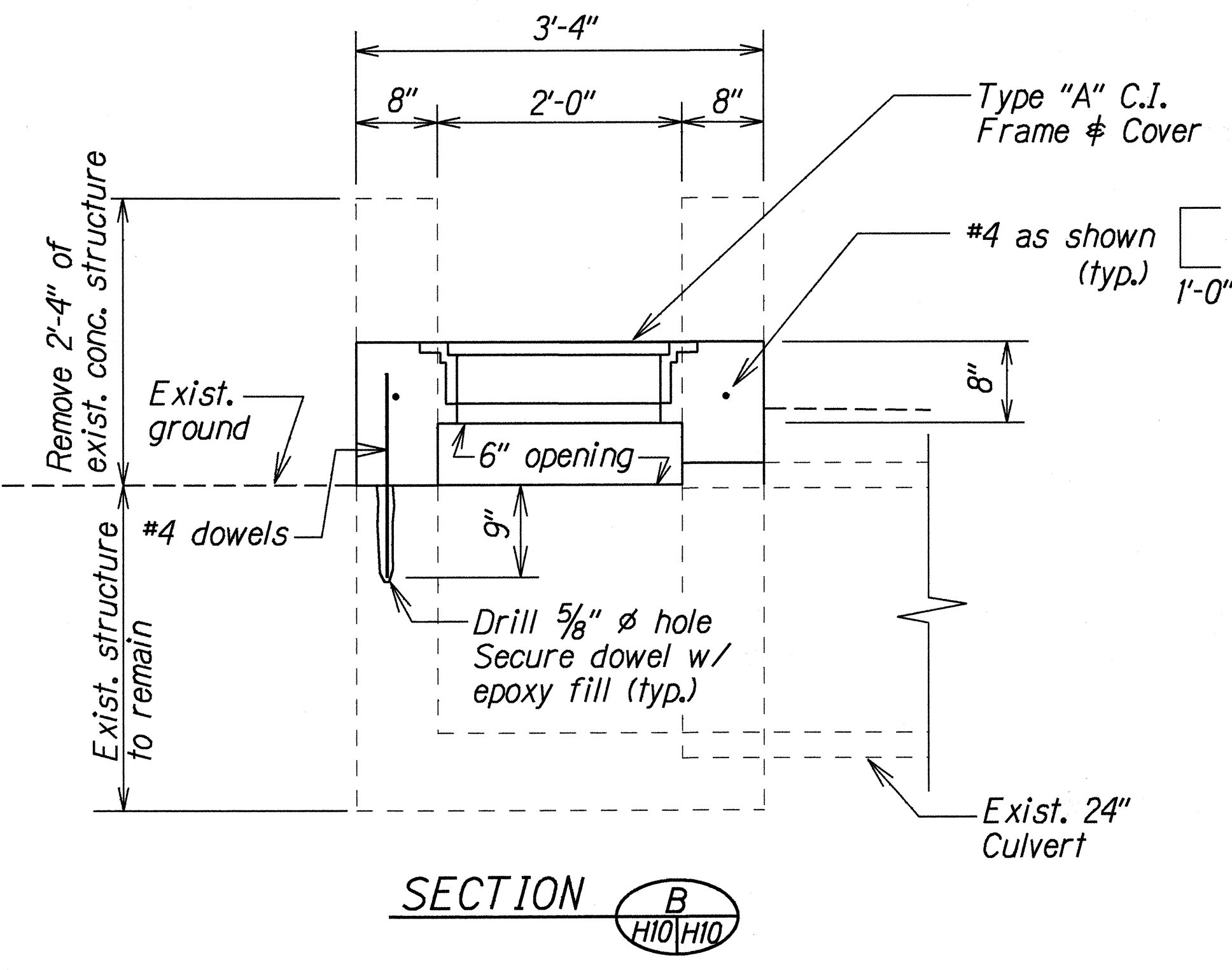
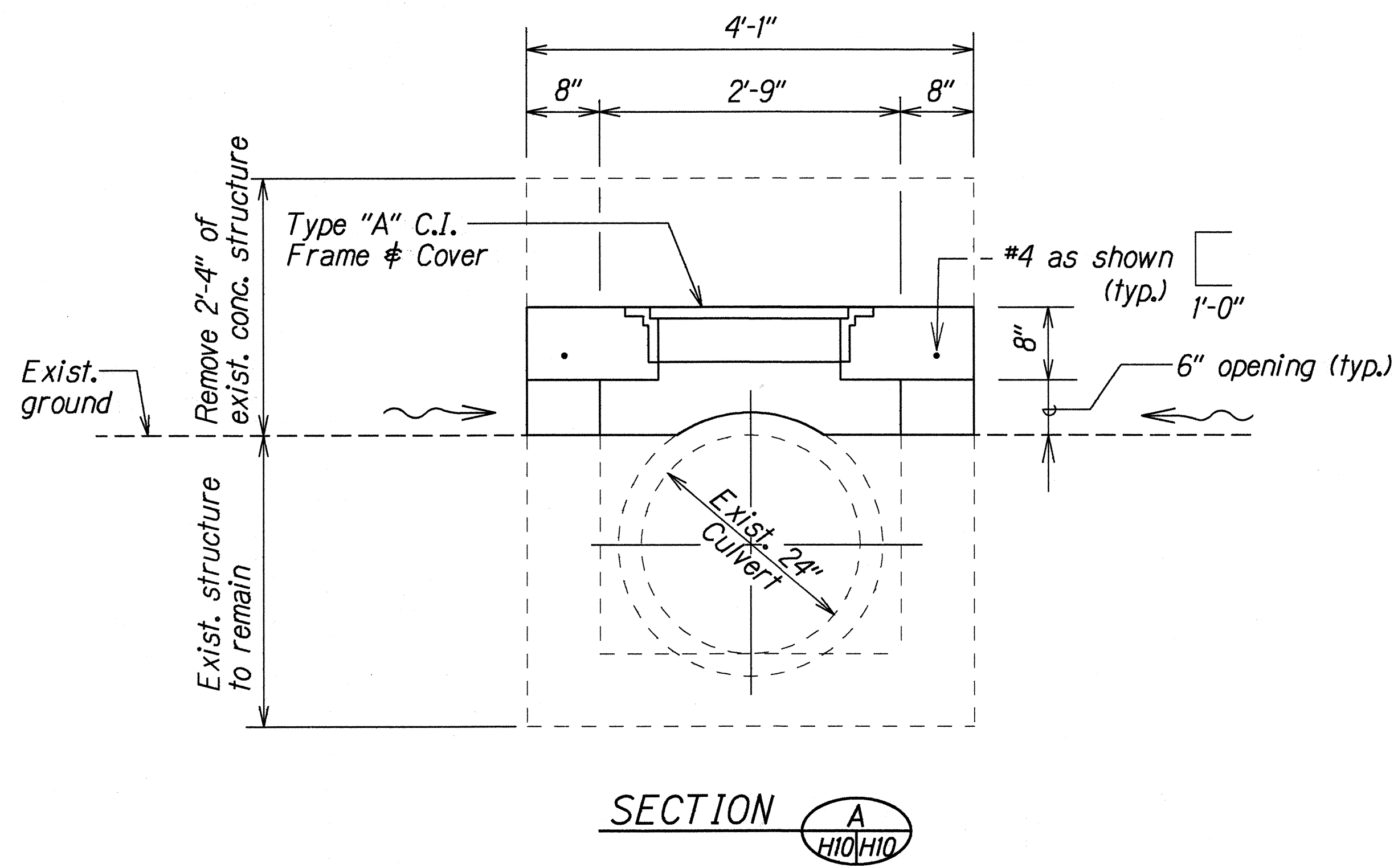
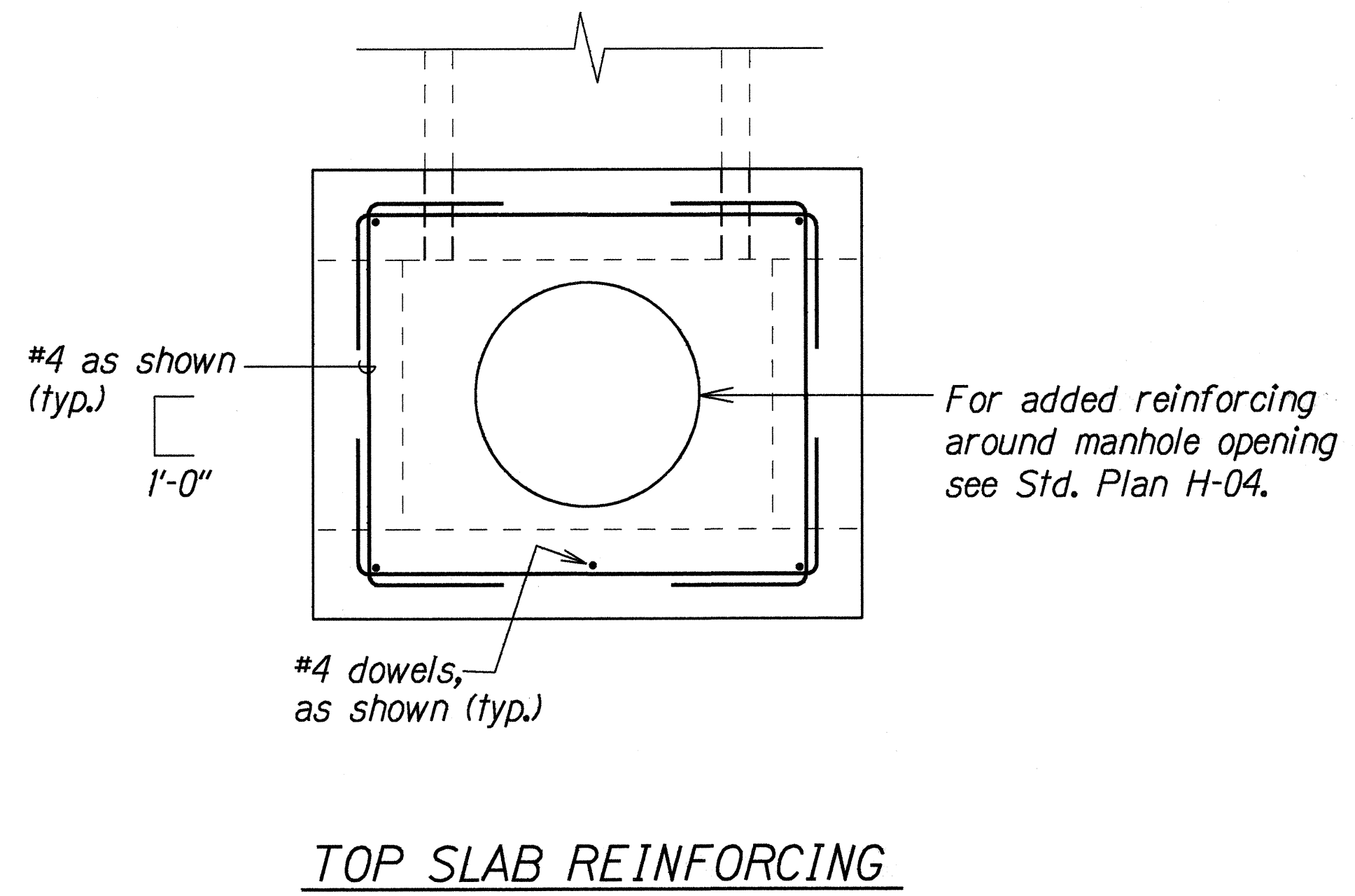
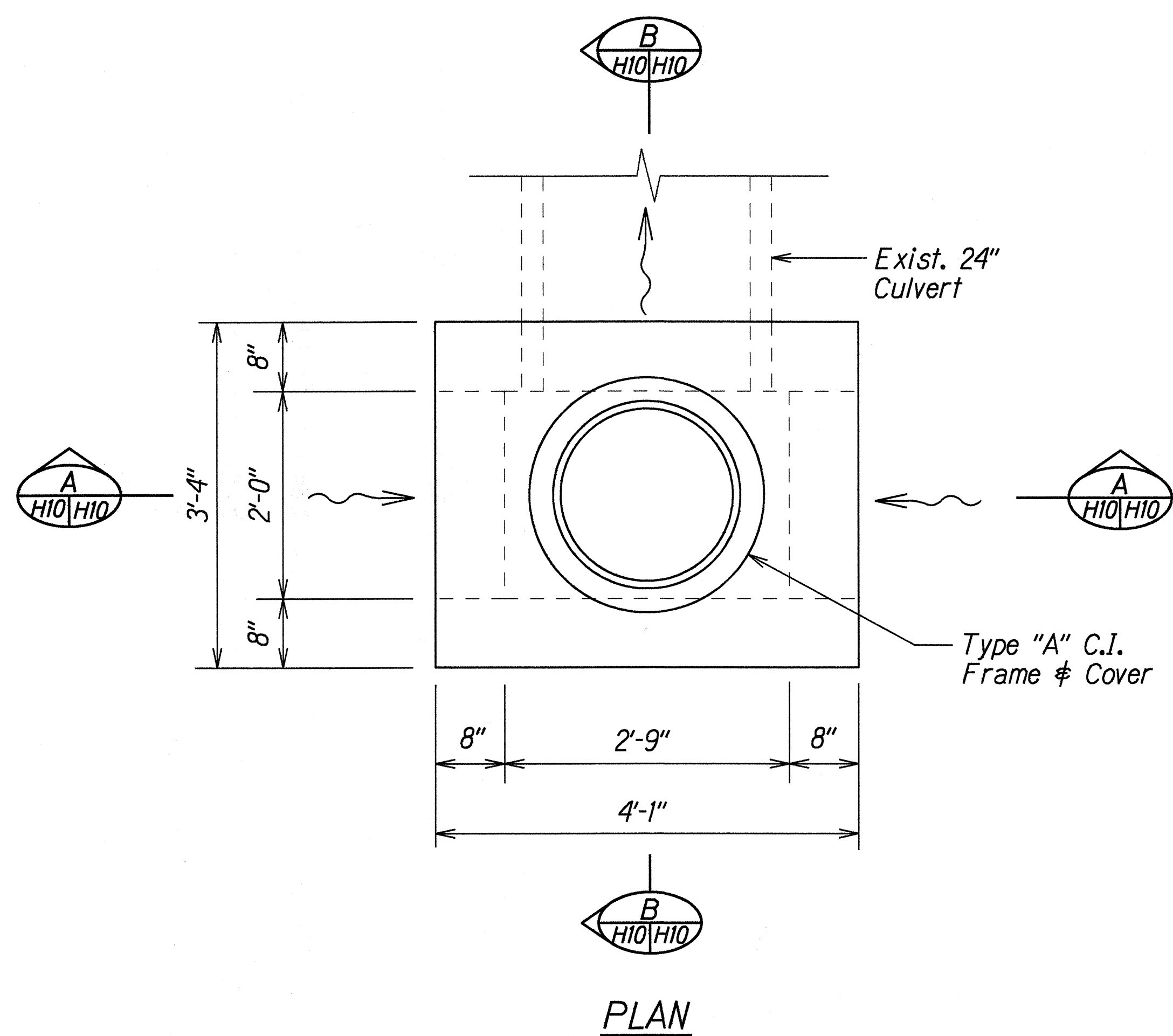
DETAILS OF MODIFIED TYPE "3" INLET STRUCTURE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
dh3randycka	TRACED BY	
8/2/03	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)
Scale: 1"=1'-0" Date: Aug. 1999
SHEET No. H9 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	47	89



DETAILS OF MODIFIED TYPE "4" INLET STRUCTURE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
012randyoka	TRACED BY	
6/24/04	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

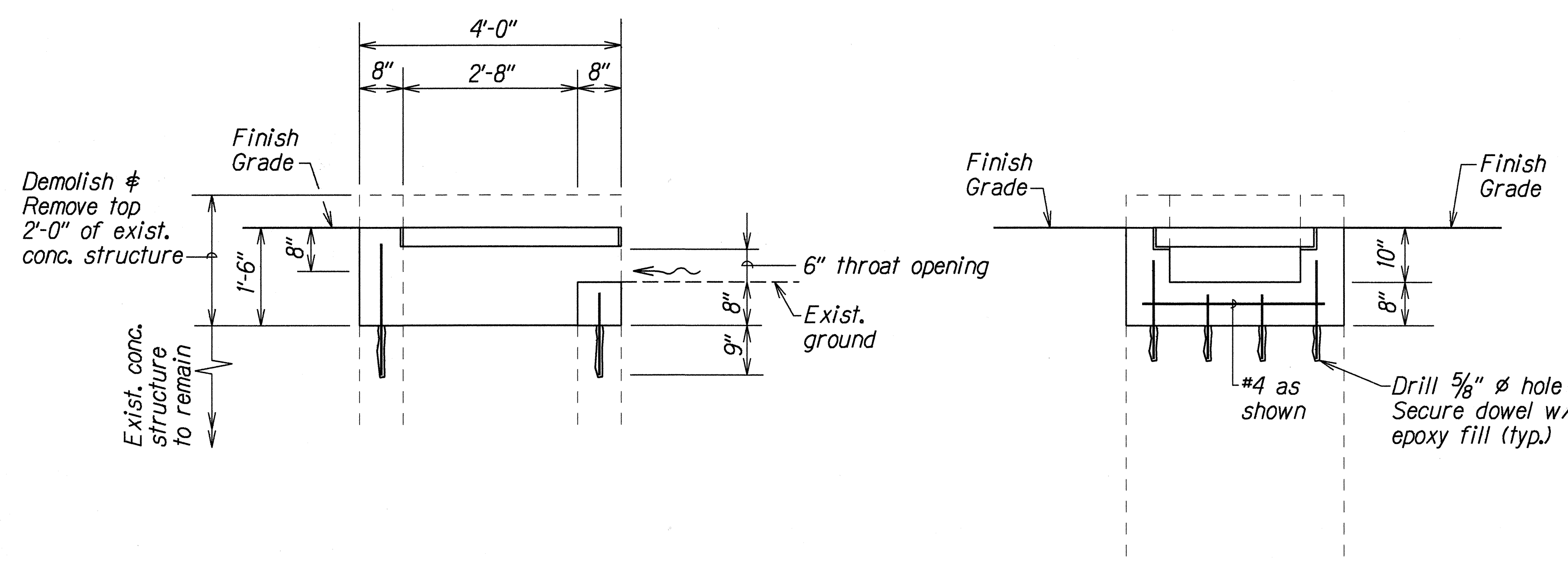
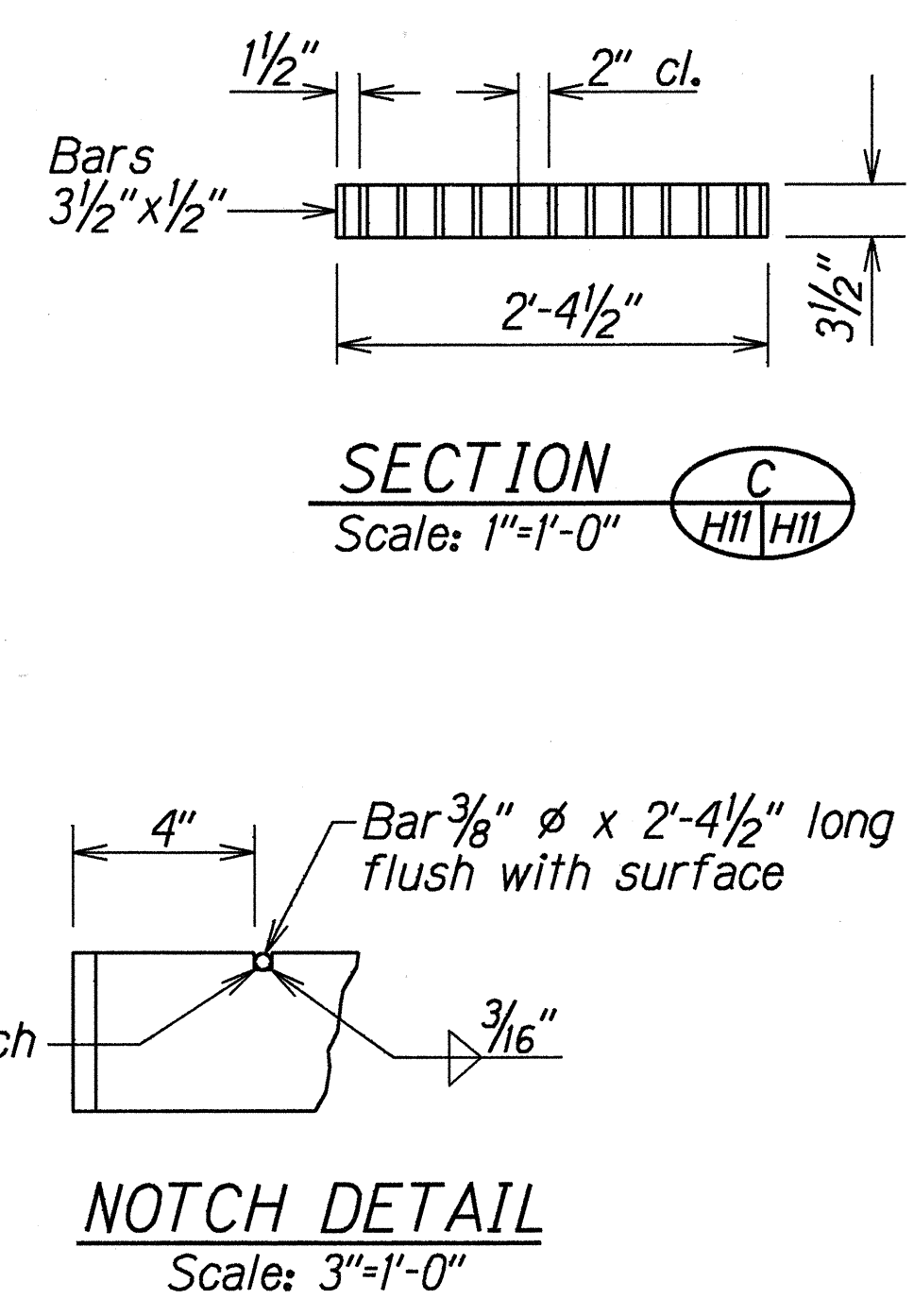
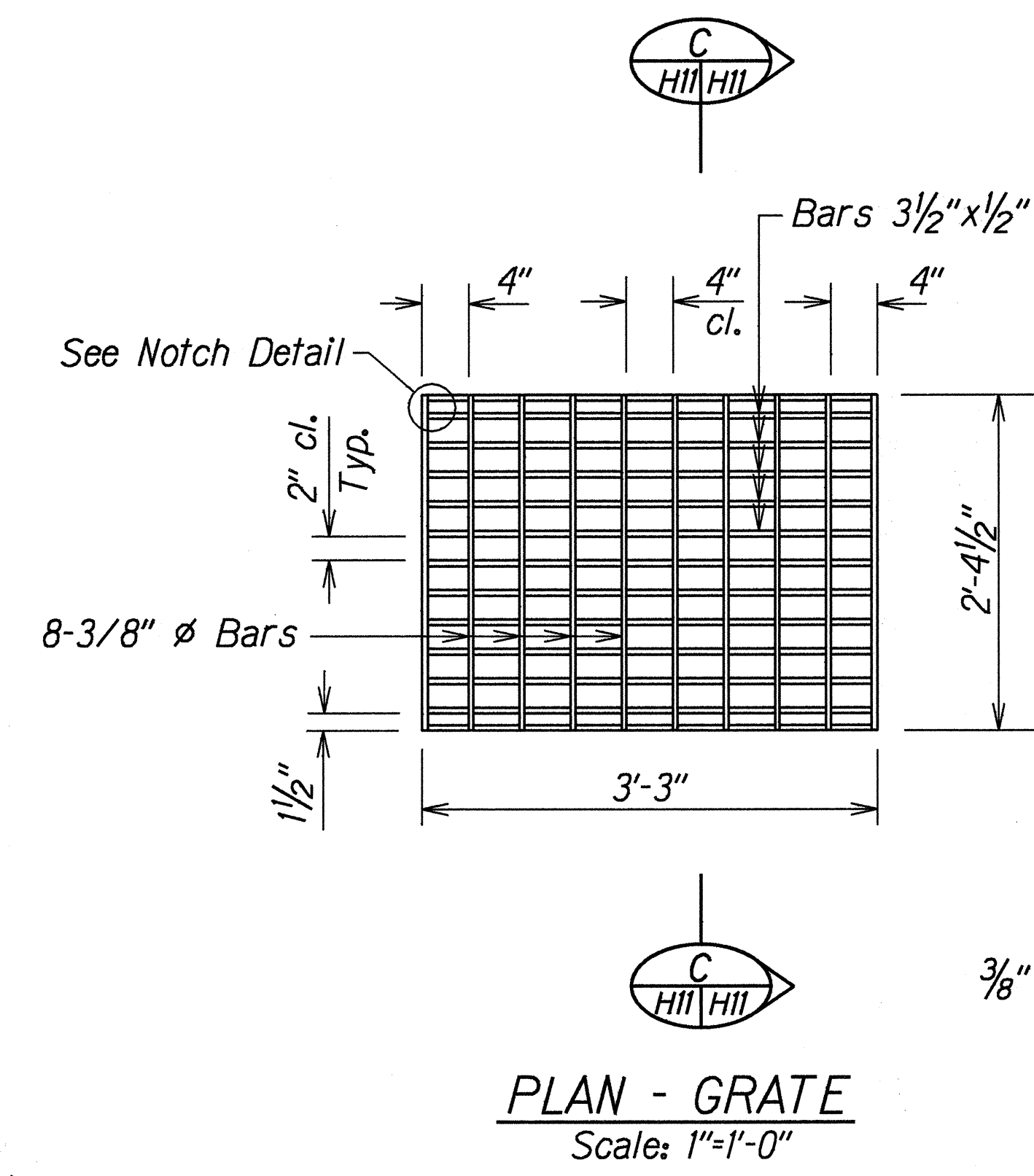
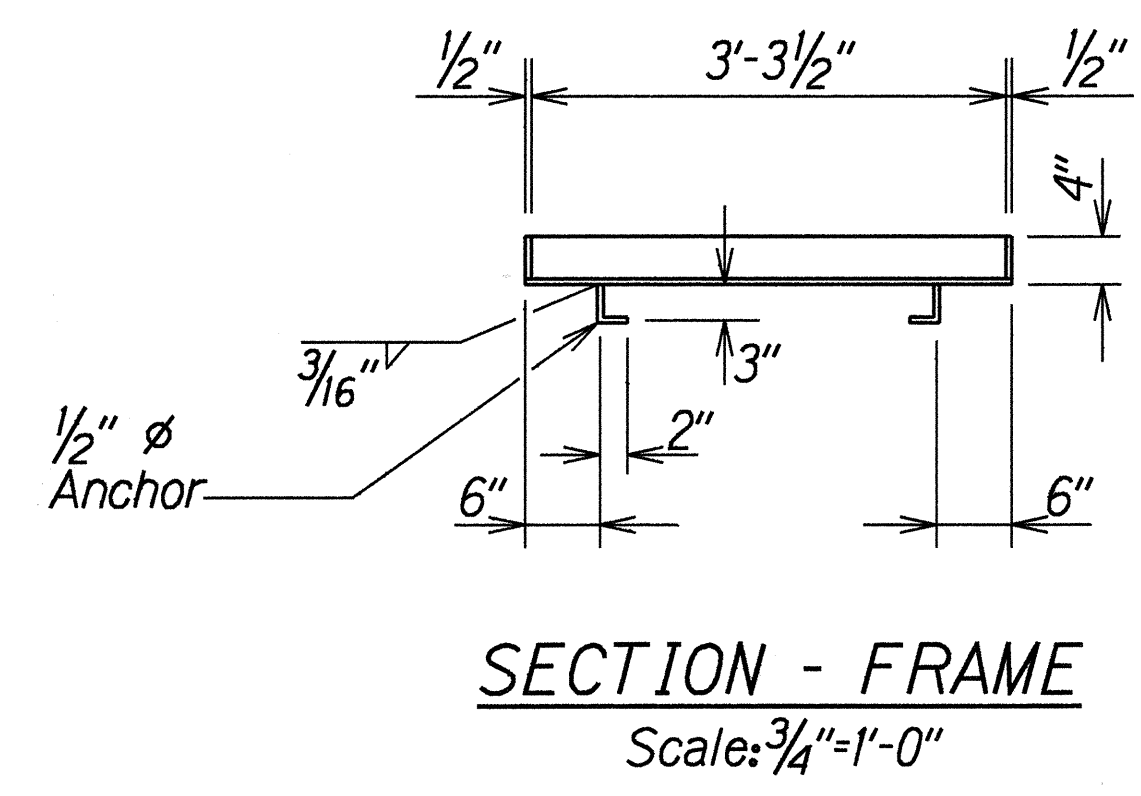
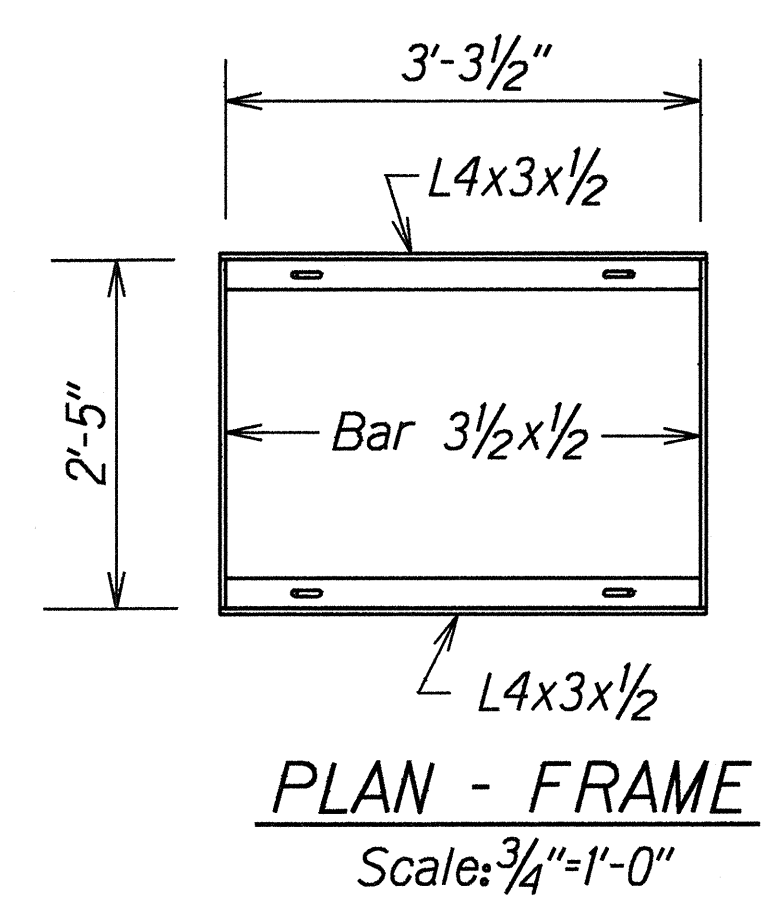
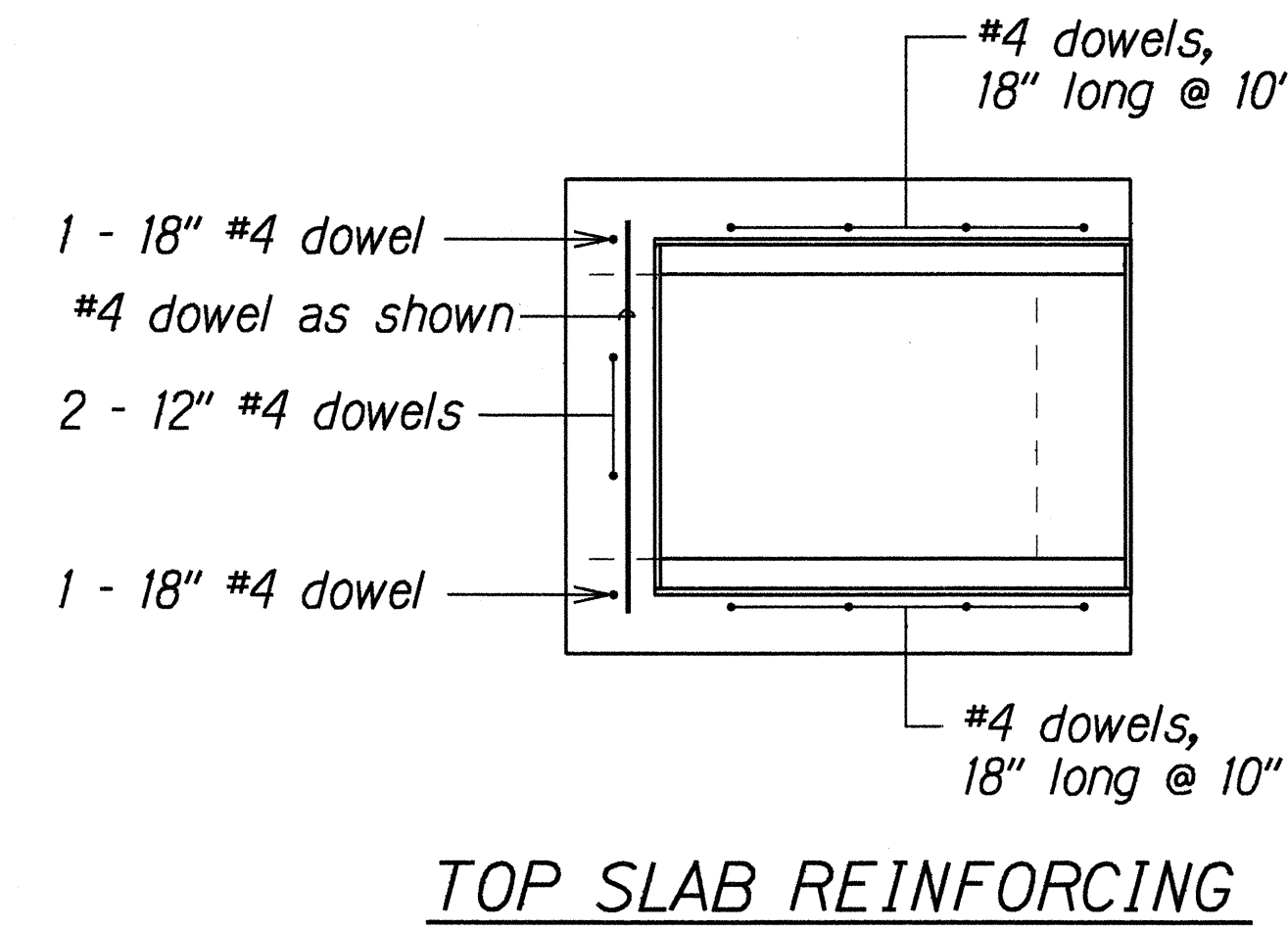
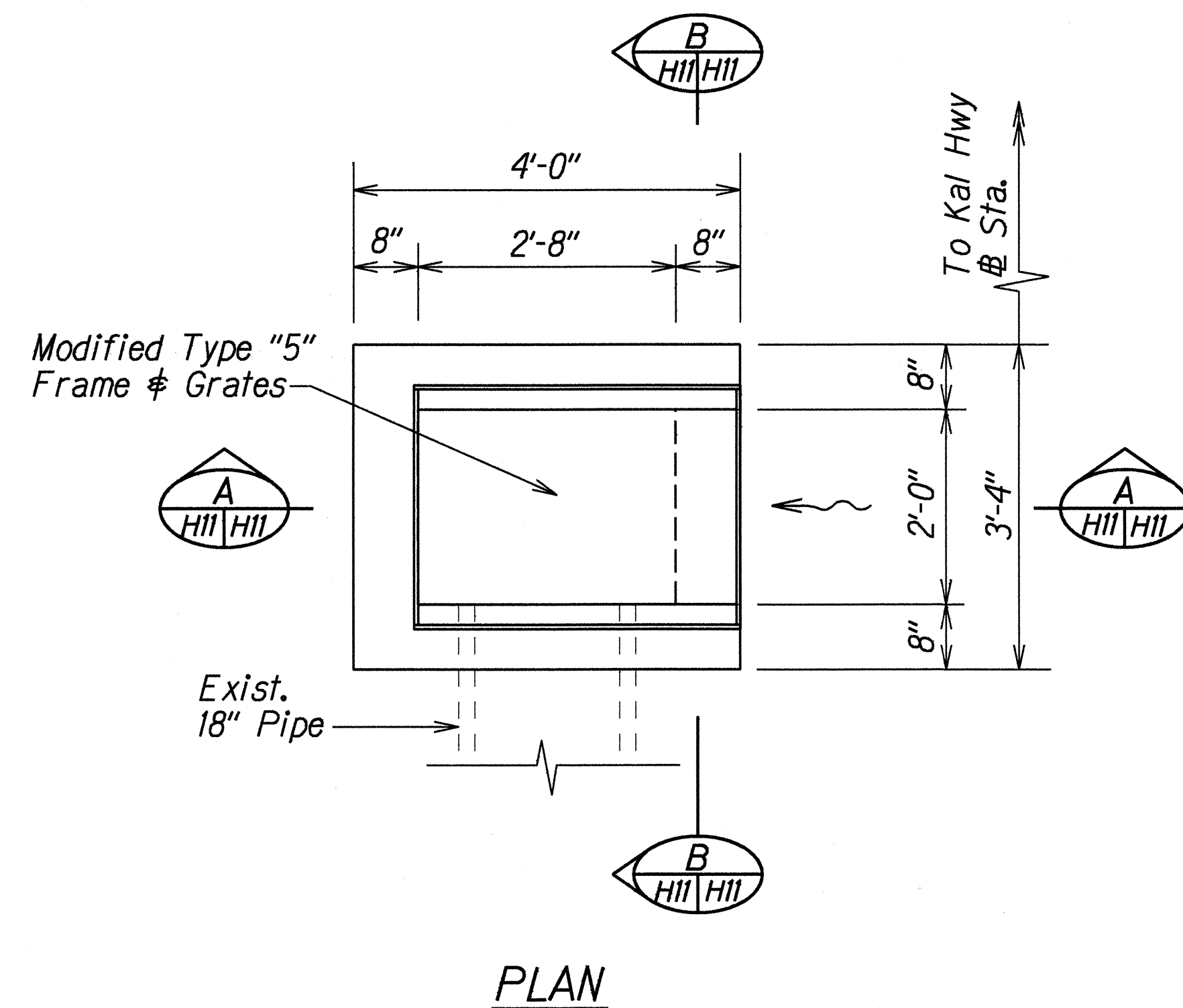
DRAINAGE DETAILS

KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)

Scale: 1"=1'-0" Date: Aug. 1999

SHEET No. H10 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	48	89



SECTION A
HII/HII

SECTION B
HII/HII

DETAILS OF MODIFIED TYPE "5" INLET STRUCTURE
Scale: 3/4"=1'-0"

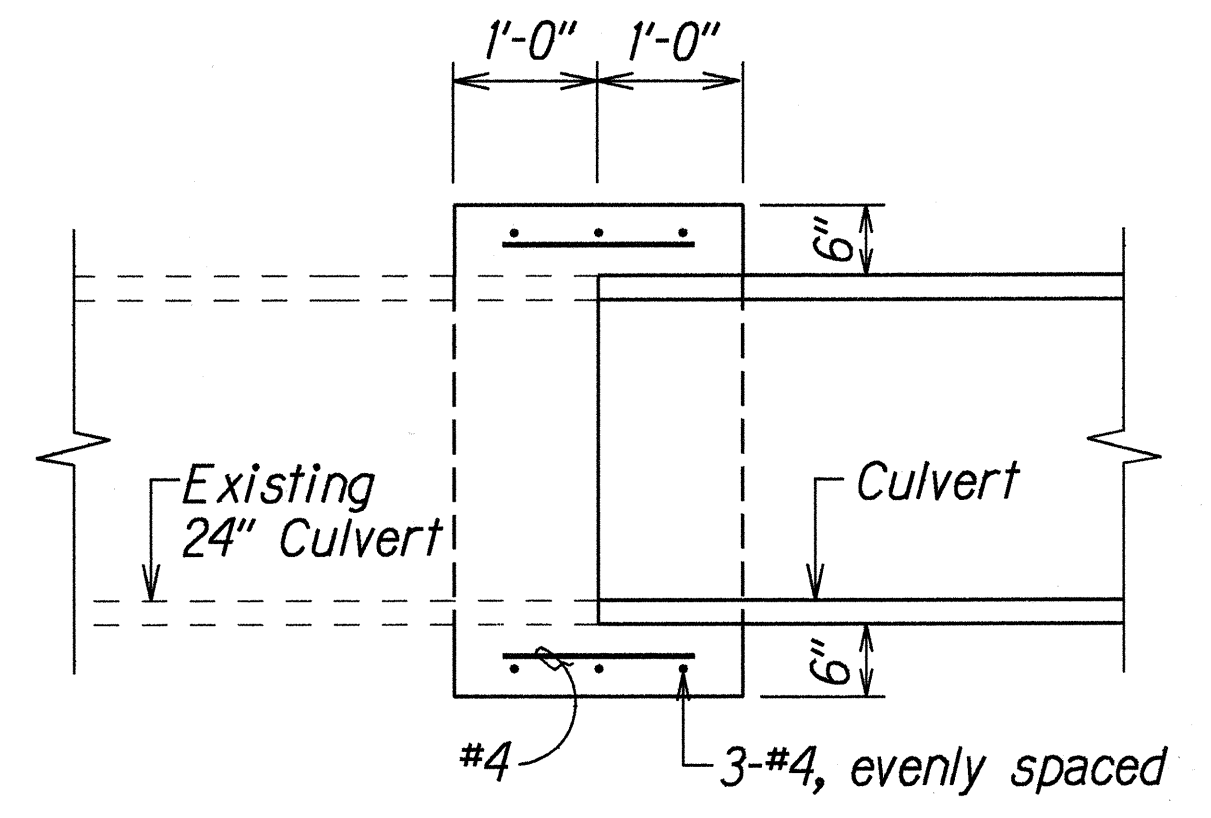
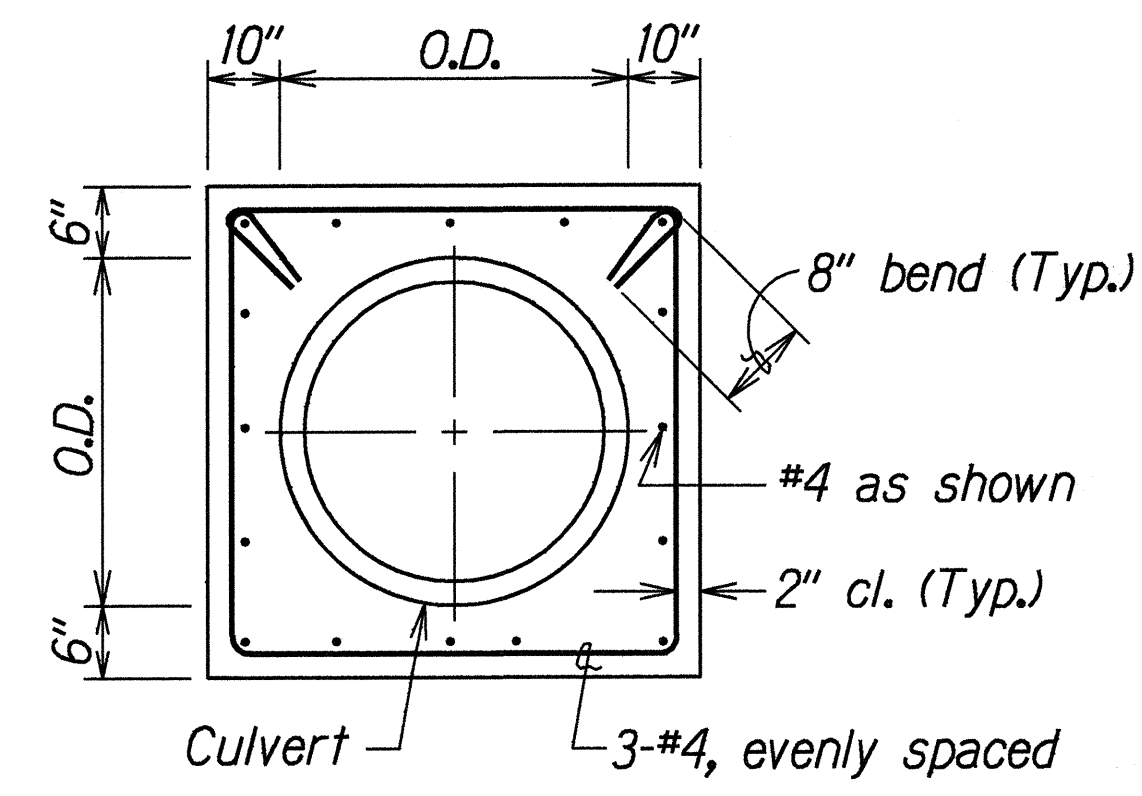
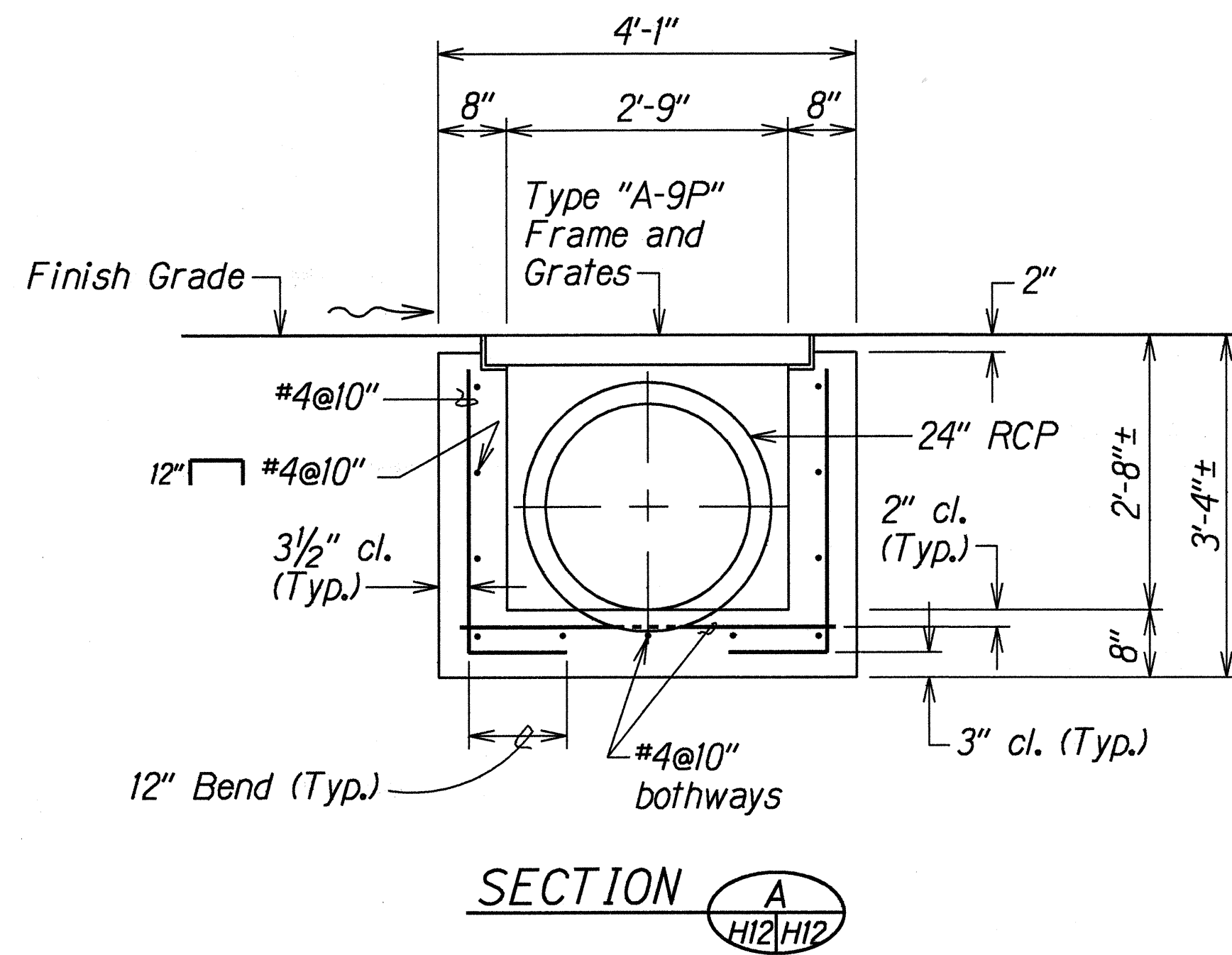
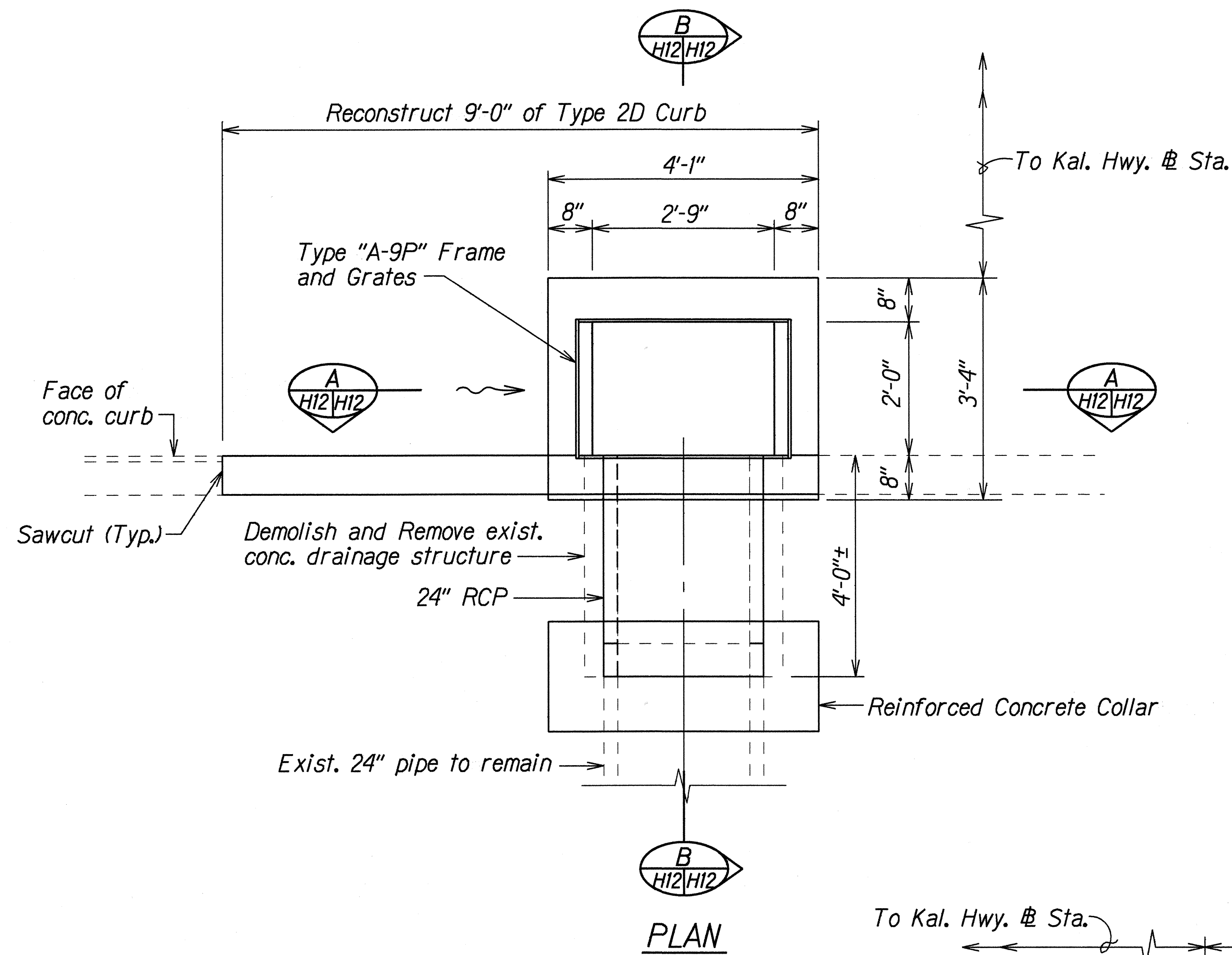
DETAILS OF MODIFIED TYPE "5" FRAME & GRATES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

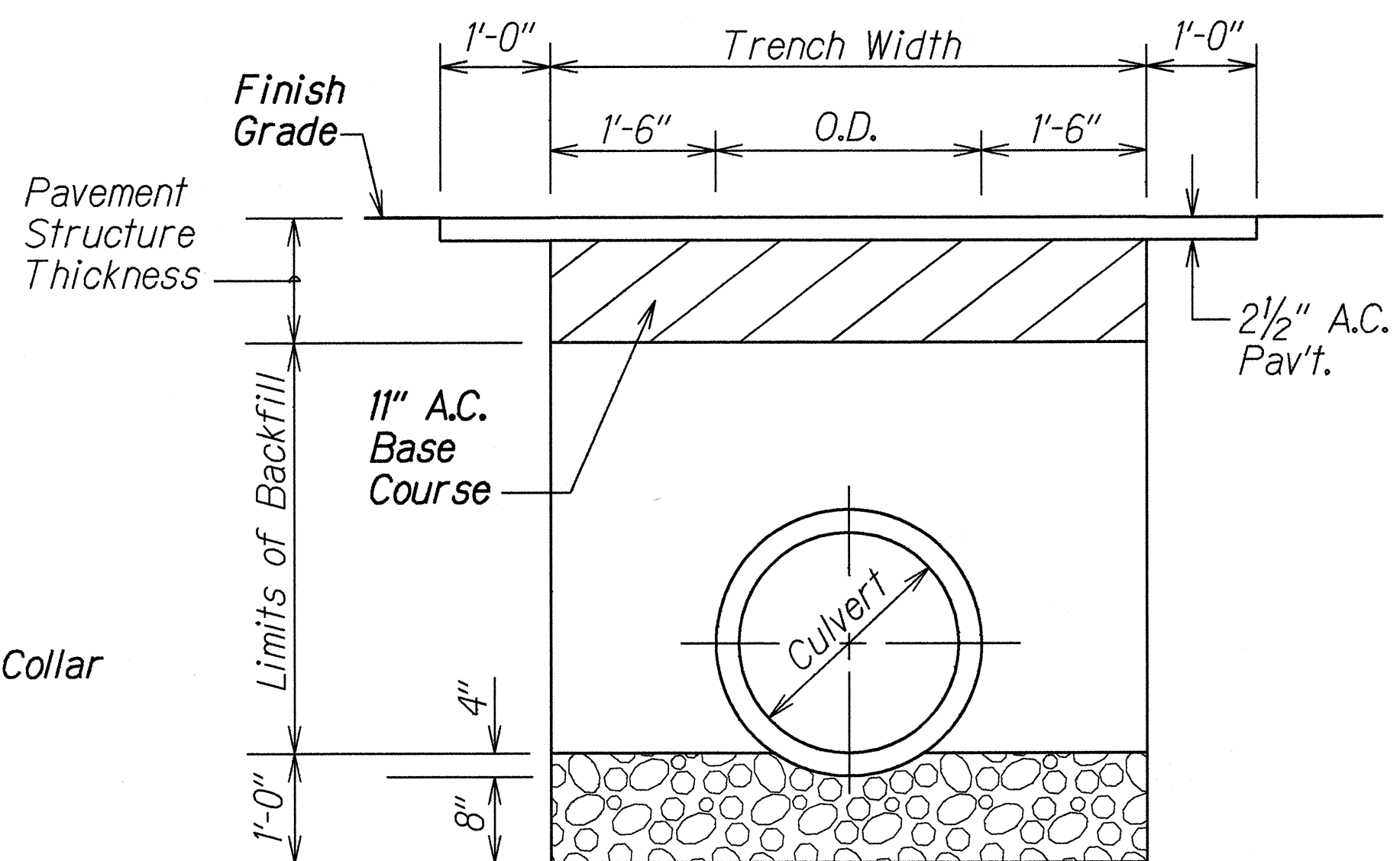
DRAINAGE DETAILS
KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)
Scale: As Shown Date: Aug. 1999
SHEET No. HII OF 14 SHEETS

ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY	X
NOTE BOOK	DESIGNED BY	X
CHS/and/or/ckel	CHECKED BY	X
8/2/99/10/2/99		

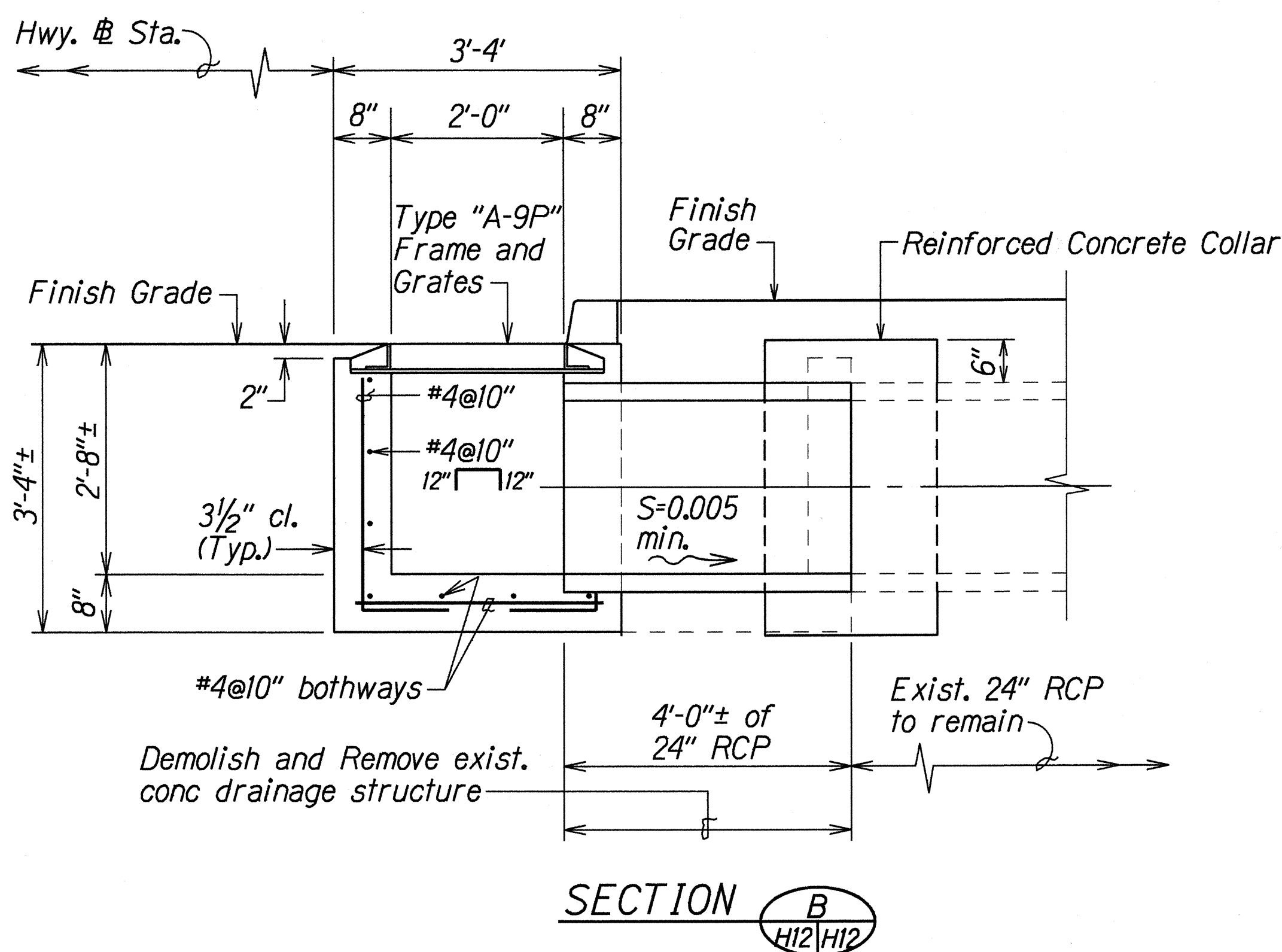
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	49	89



TYPICAL DETAILS OF REINFORCED CONCRETE COLLAR



TYPICAL DETAIL OF CULVERT TRENCH AND BACKFILL RESTORATION



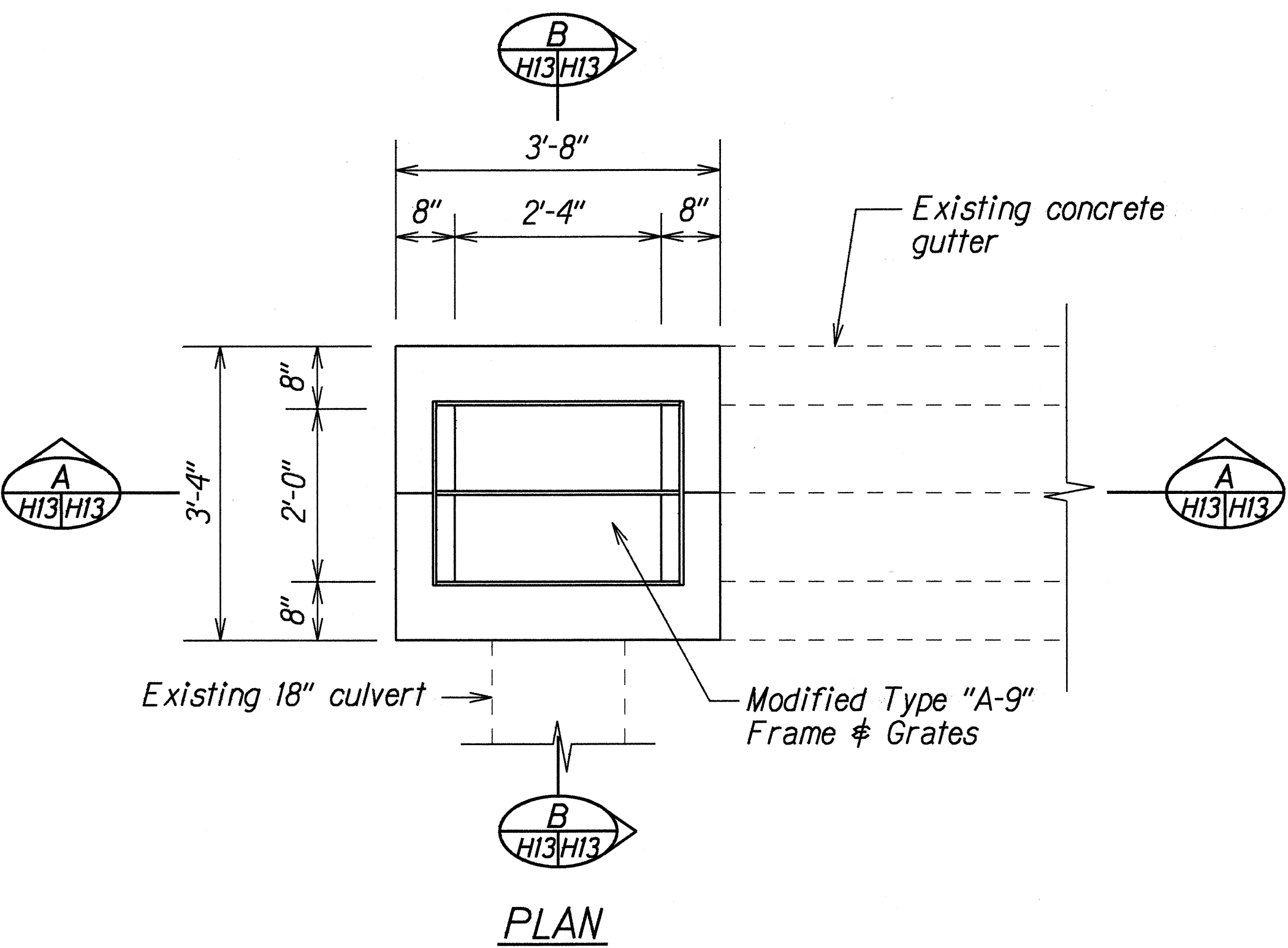
DETAILS OF TYPE "A-9P" GRATED DROP INLET AT STA. 55+66 O/S 50' RT.

ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTES	
BY	
DATE	

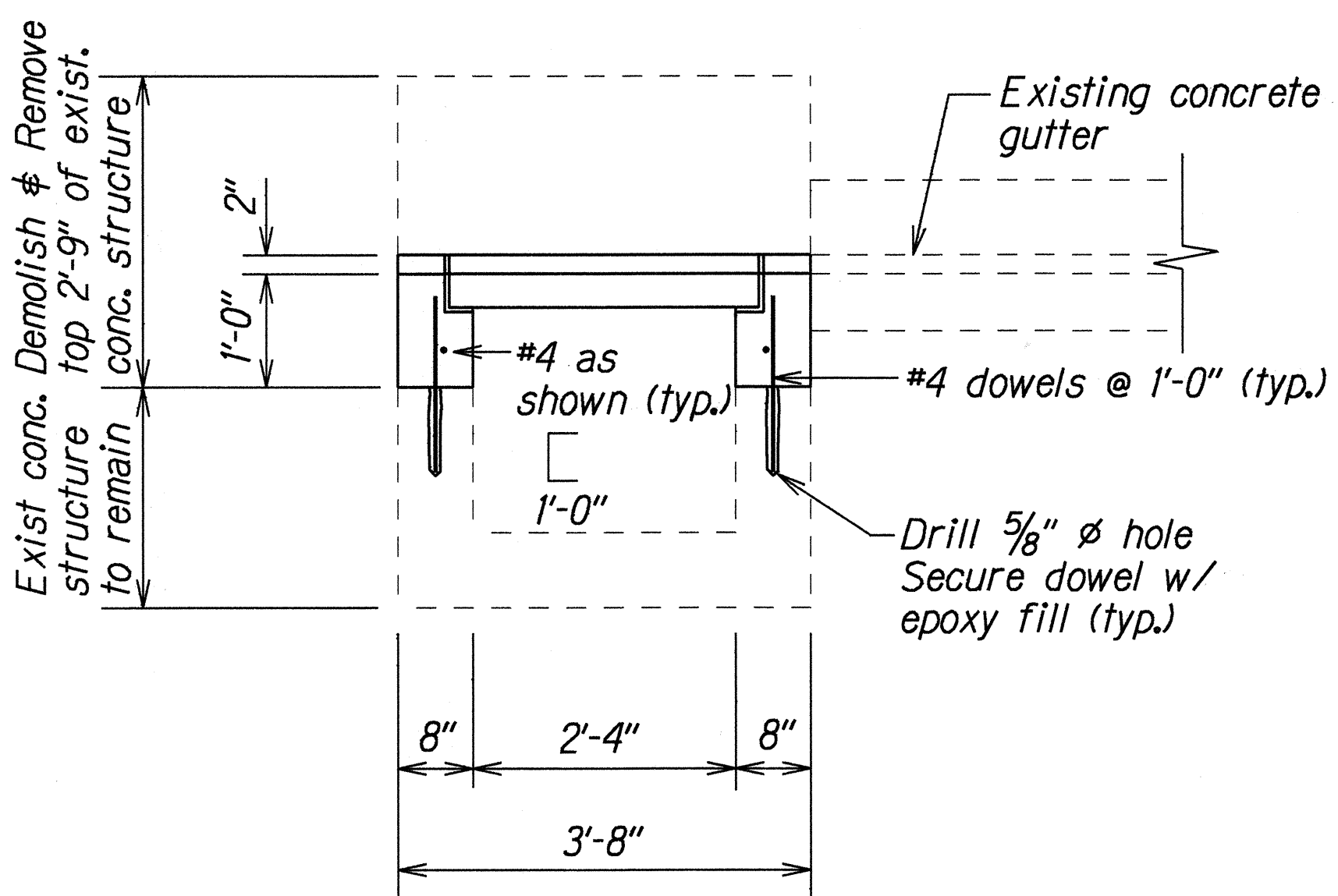
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)
Scale: 3/4"=1'-0" Date: Aug. 1999

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	50	89



PLAN

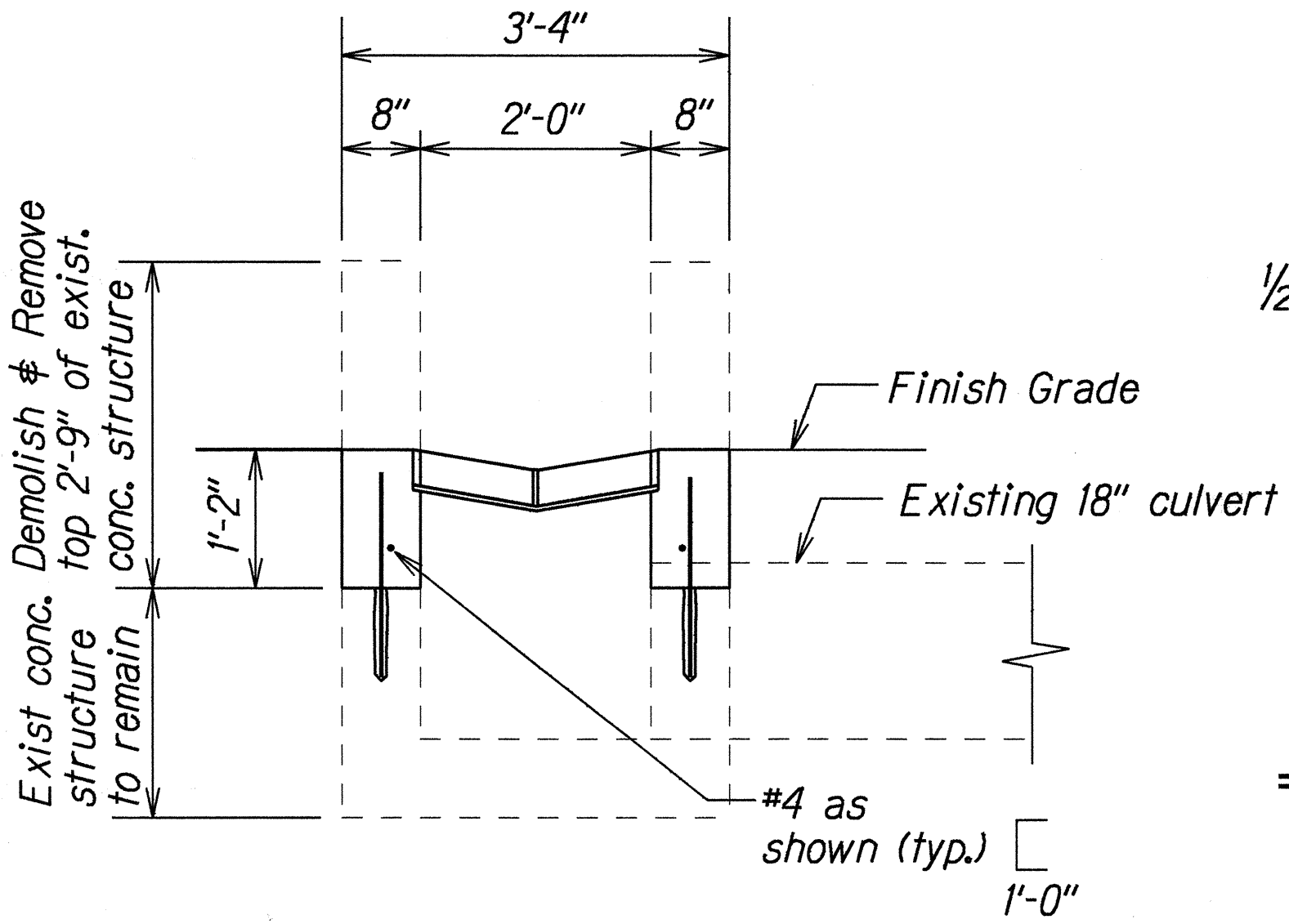


SECTION

A
H13/H13

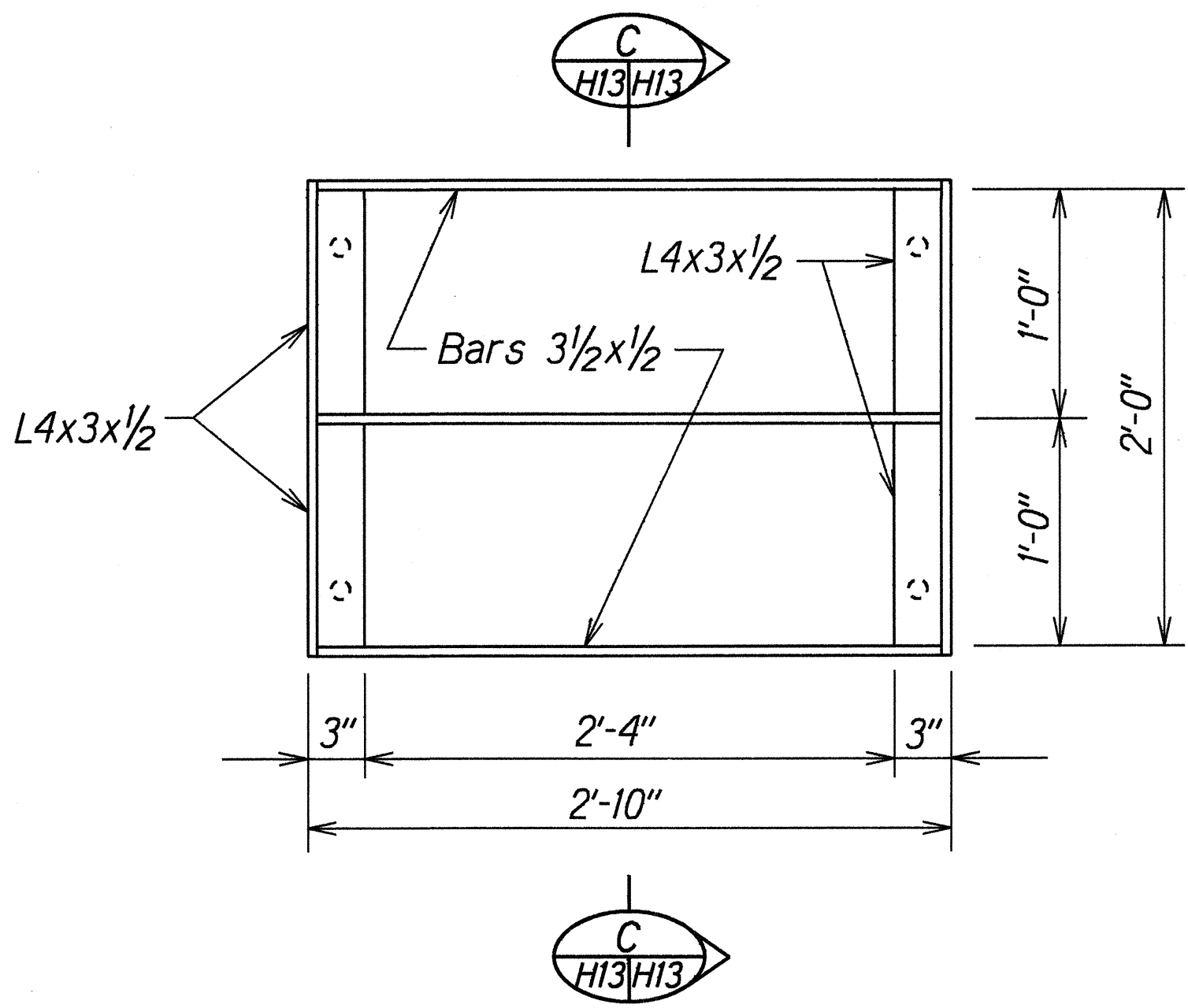
DETAILS OF MODIFIED TYPE "6" INLET STRUCTURE

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

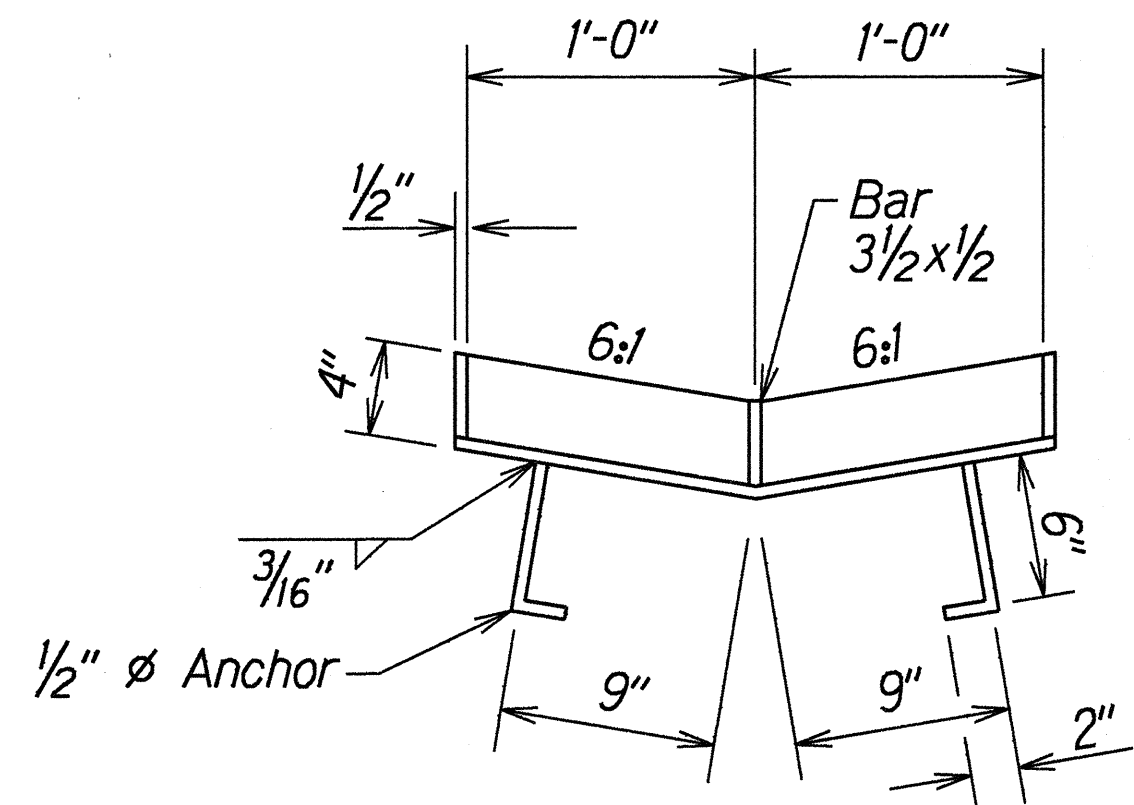


SECTION

B
H13/H13



PLAN - FRAME

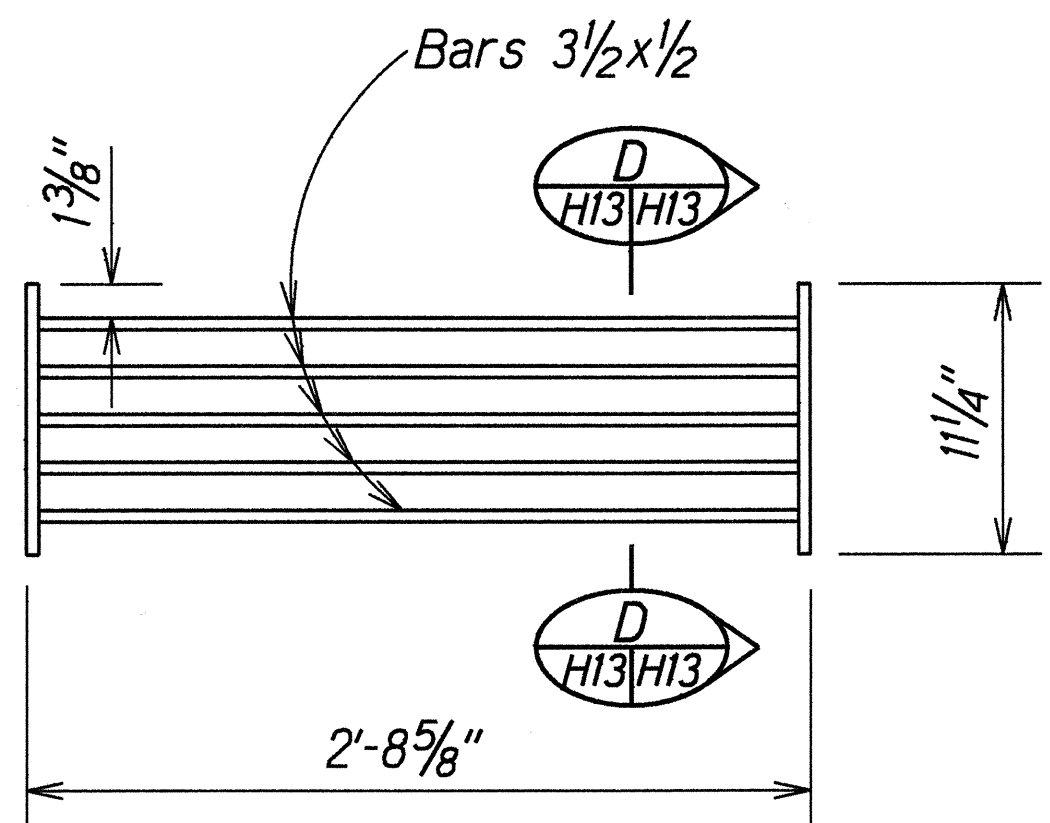


SECTION

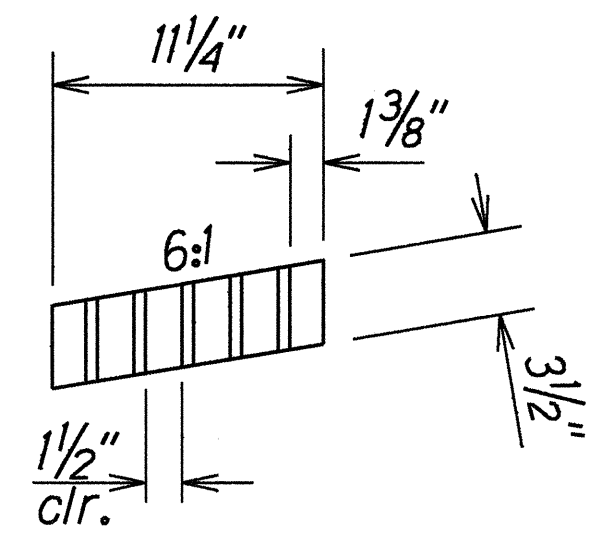
C
H13/H13

DETAILS OF MODIFIED TYPE "A-9P" FRAME AND GRATES

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



PLAN - GRATE



SECTION

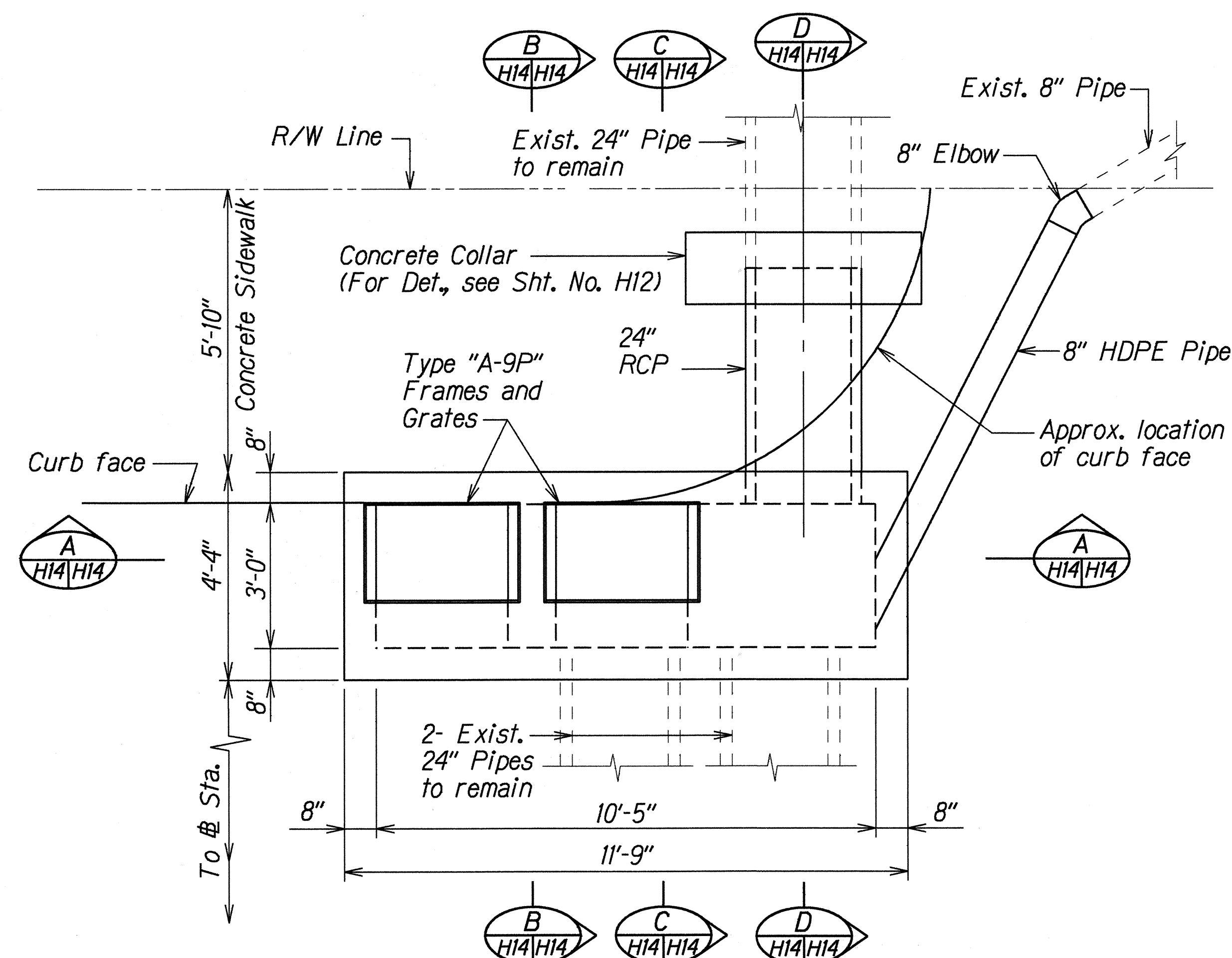
D
H13/H13

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
QUANTITIES BY	CHECKED BY	

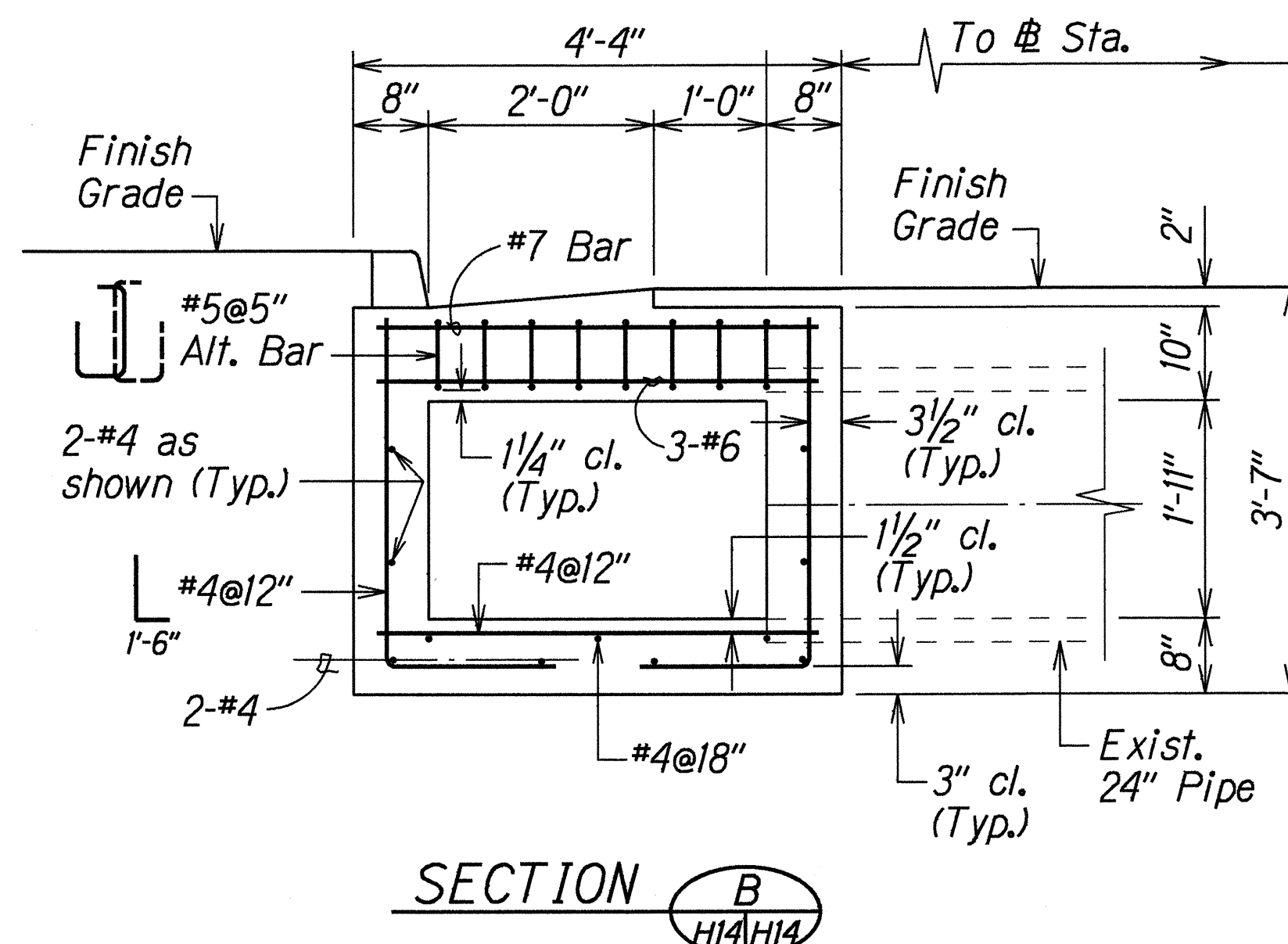
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)
Scale: As Shown Date: Aug. 1999
SHEET No. H13 OF 14 SHEETS

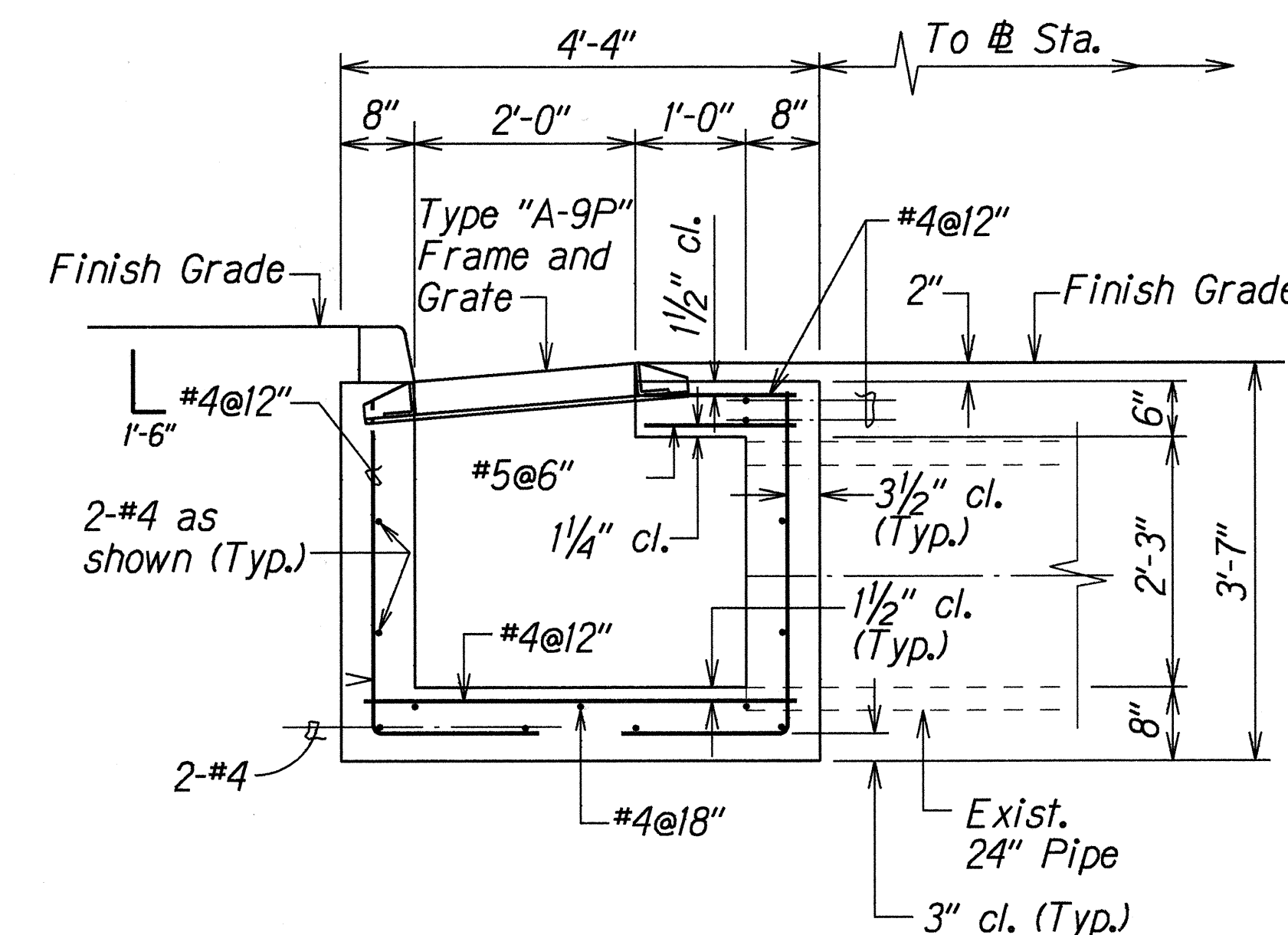
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(47)	2000	51	89



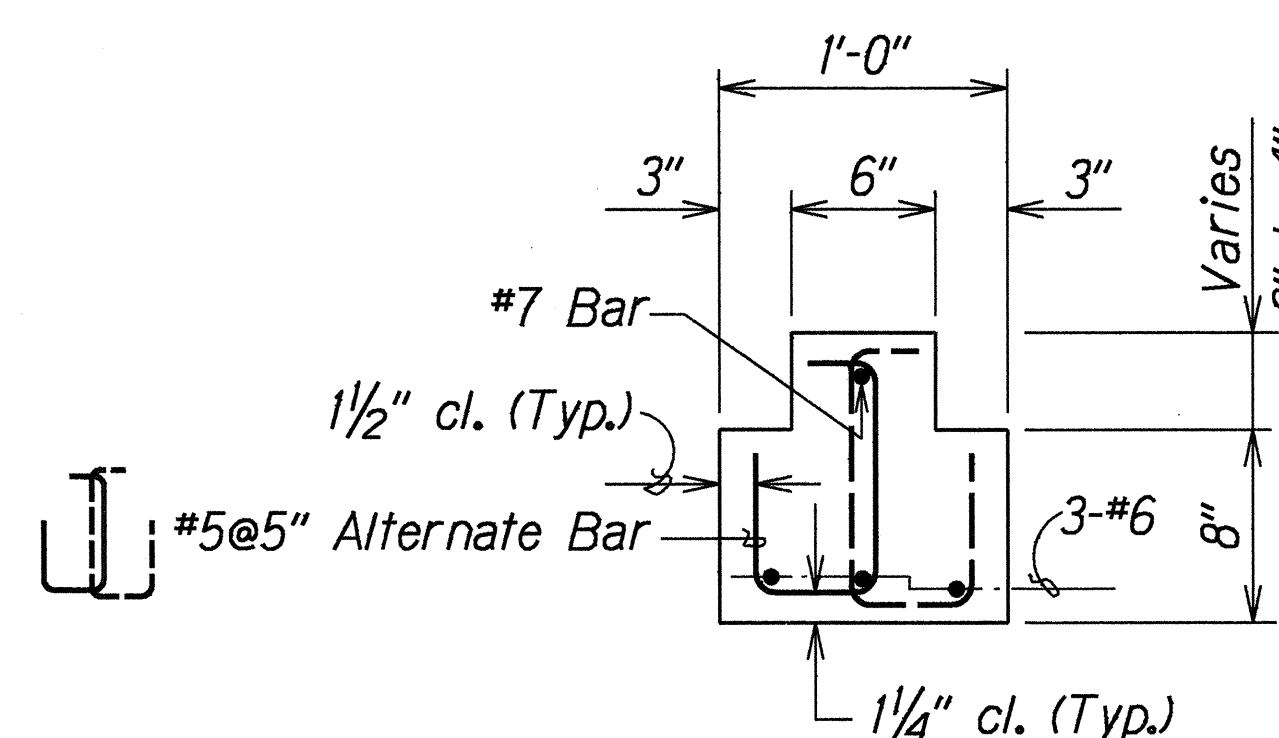
PLAN
Scale: 1/2"=1'-0"



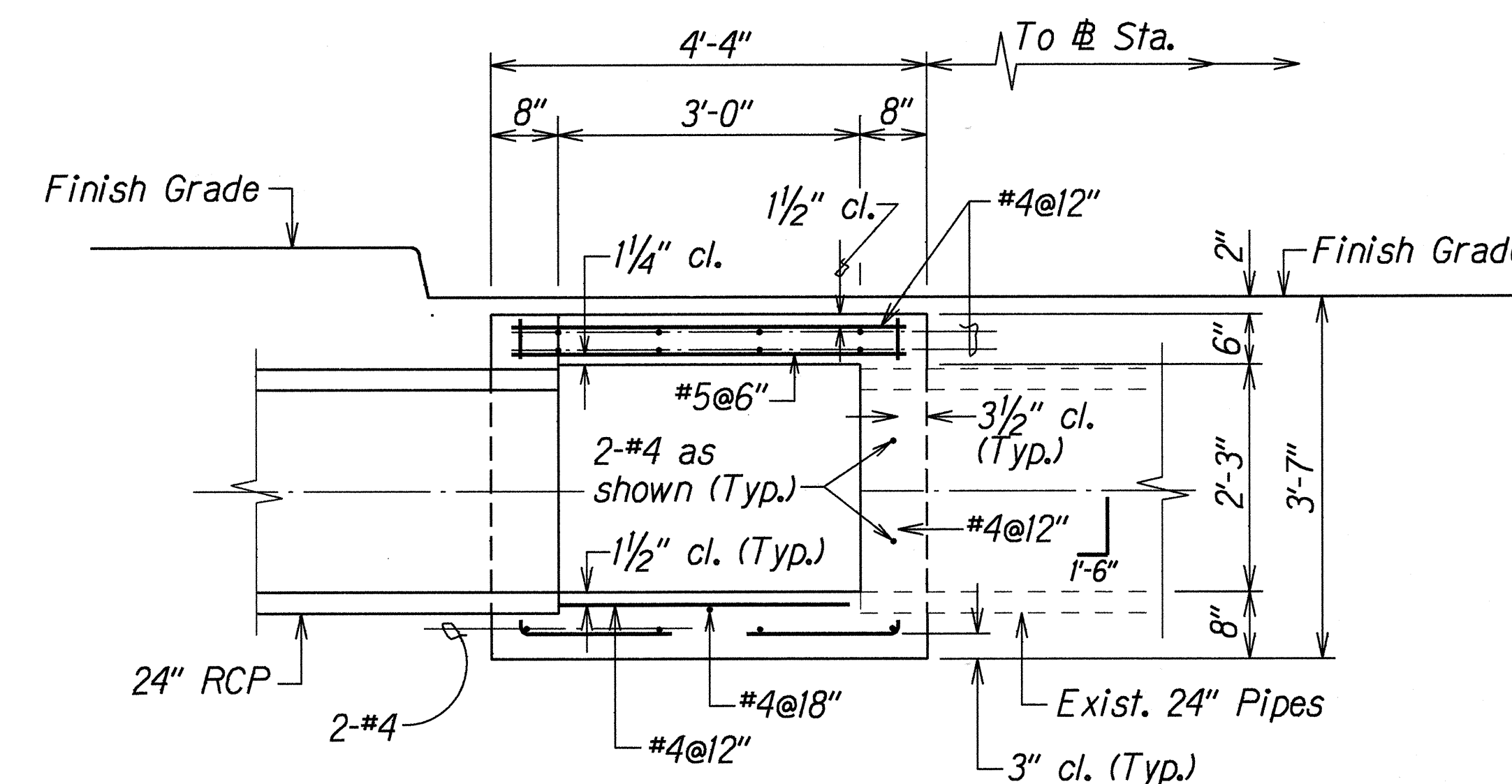
SECTION B
H14/H14



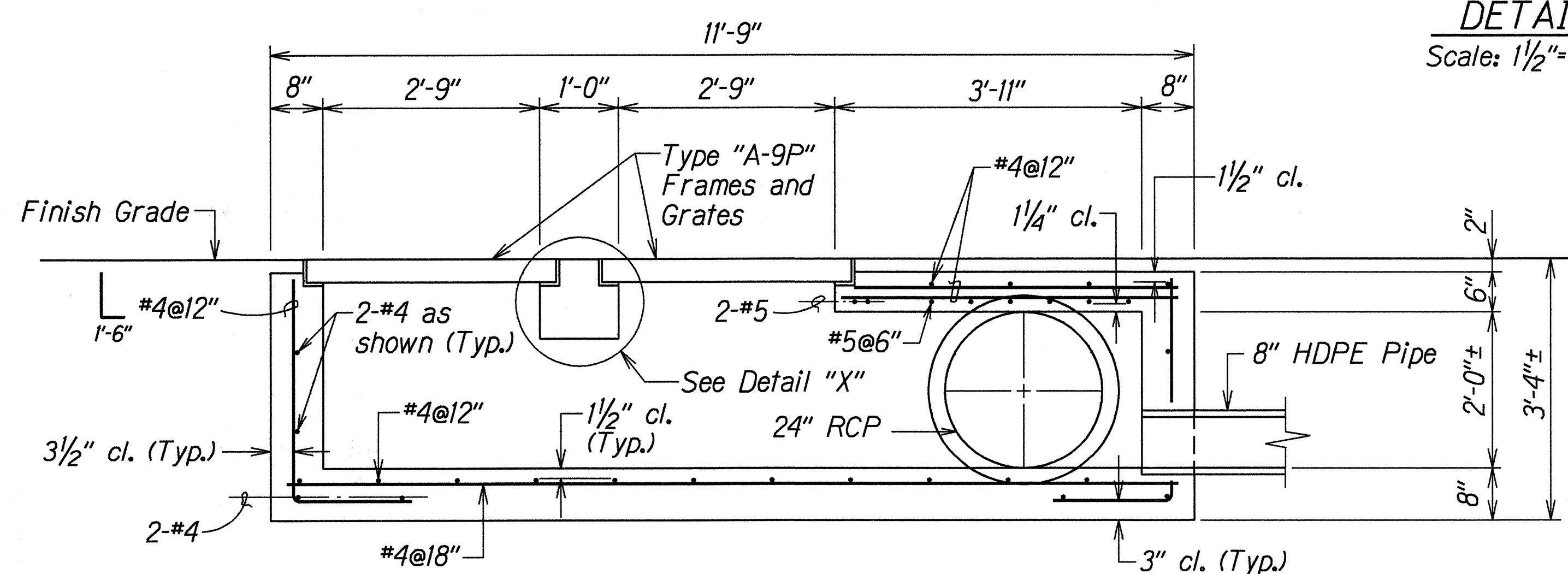
SECTION C
H14/H14



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



SECTION D
H14/H14



SECTION A
H14/H14

DETAILS OF MODIFIED TYPE "7" INLET STRUCTURE

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

ORIGINAL PLAN	DATE	BY
NOTED	10/1/99	RS
CHECKED	10/1/99	RS
DESIGNED	10/1/99	RS
DRAWN	10/1/99	RS
SURVEY	10/1/99	RS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

KALANIANA'OLE HIGHWAY RESURFACING
Ainakoa Avenue to West Hind Drive
F.A. Proj. No. NH-072-1(47)

Scale: As Shown Date: Aug. 1999

SHEET No. H14 OF 14 SHEETS