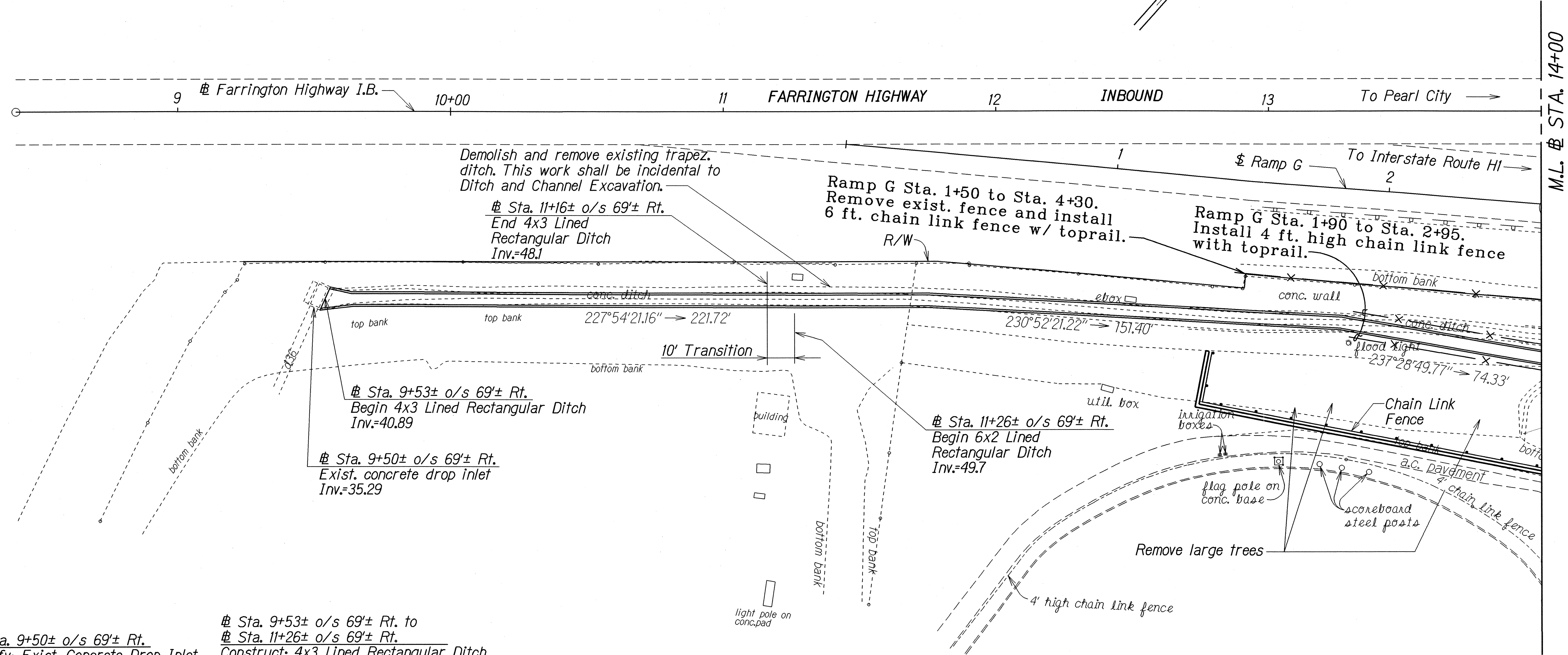


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	C.O.4R	22

Demolish and remove existing trapezoidal ditch. This work shall be incidental to Ditch and Channel Excavation.



Sta. 9+50± o/s 69± Rt.
Modify: Exist. Concrete Drop Inlet
(For details see sht. no. H4)

Estimated Quantities
Modify Exist CDI,
4.00 ft. to 4.99 ft. = 1 Ea.

Sta. 9+53± o/s 69± Rt. to
Sta. 11+26± o/s 69± Rt.
Construct: 4x3 Lined Rectangular Ditch
(For details see Sht. No. H6)

Estimated Quantities
Ditch and Channel Excavation = 143 C.Y.
4x3 Lined Rectangular Ditch = 173 L.F.

Sta. 11+26± o/s 69± Rt. to
Ramp G Sta. 2+92± o/s 60± Rt.
Construct: 6x2 Lined Rectangular Ditch
(For details see Sht. No. H6)

Estimated Quantities
Ditch and Channel Excavation = 283 C.Y.
6x2 Lined Rectangular Ditch = 307 L.F.

Ramp G Sta. 0+30± o/s 40± Rt. to
Ramp G Sta. 3+50± o/s 35± Rt.
Plant yellow Oleander (Be-Still Trees)
along the right-of-way line, on the
school property.

Ramp G Sta. 1+36± o/s 83± Rt. to
Ramp G Sta. 3+42± o/s 105± Rt.
Construct: 300± L.F. of New Concrete
Retaining Wall. For Details, See
Retaining Wall Plans.
Install: 300± L.F. of New 4' High Chain
Link Fence without Top Rail along
the inside of the wall. For Details,
See Plans Sheet No. 19.

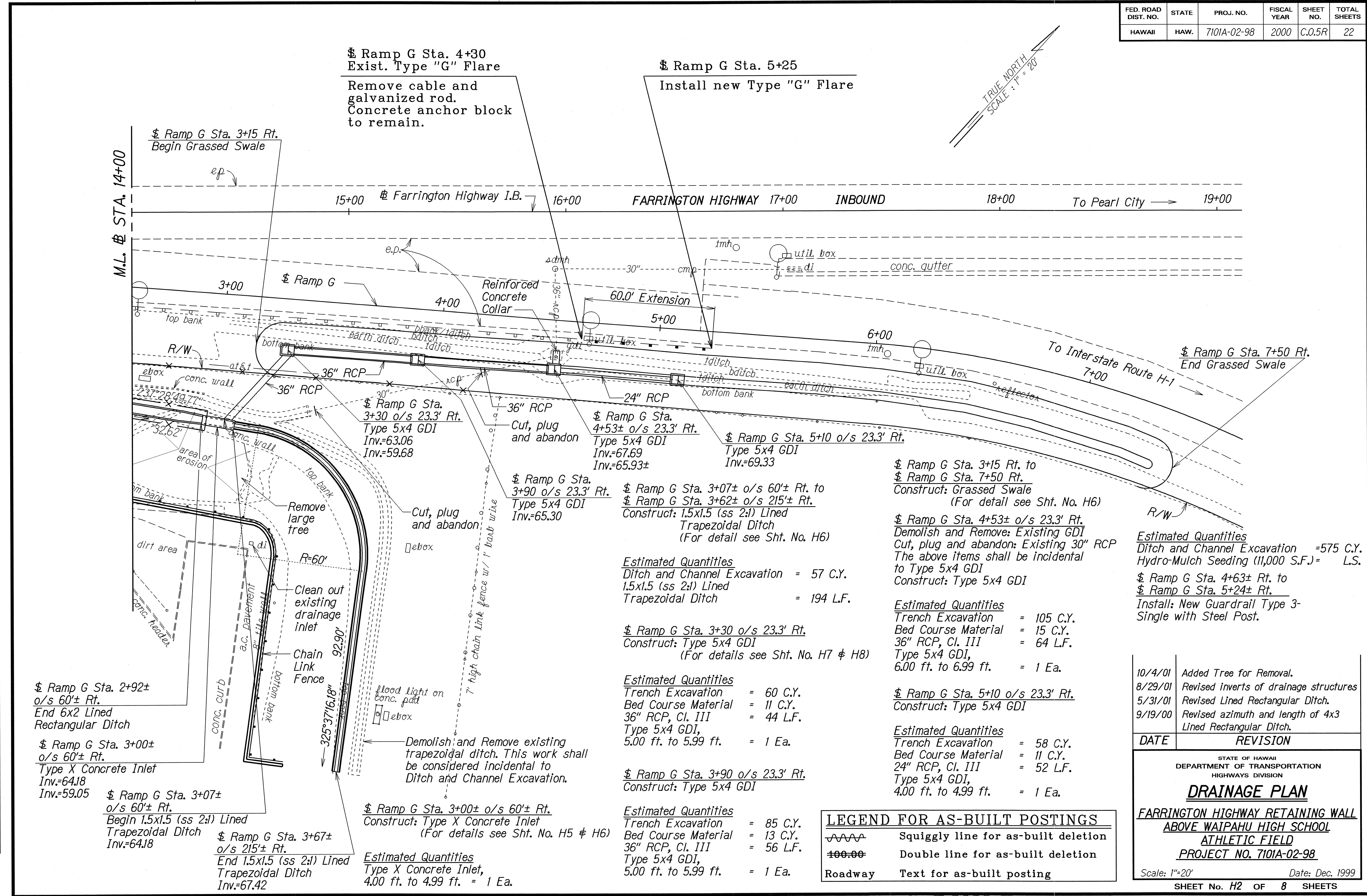
Ramp G Sta. 2+60± o/s 100± Rt. to
Ramp G Sta. 3+38± o/s 105± Rt.
Remove: exist. a.c. pav't. walkway along
field until the concrete ramp to the
bleachers. Replace with New 5' A.C.
Pav't, Mix No. V Walkway, See Detail
On Plan Sheet No. 13.

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
10/4/01	Added Trees for Removal and Added Additional Notes.
5/31/01	Revised Lined Rectangular Ditch.
9/19/00	Revised azimuth and length of 4x3 Lined Rectangular Ditch.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DRAINAGE PLAN	
FARRINGTON HIGHWAY RETAINING WALL ABOVE WAIPAHU HIGH SCHOOL ATHLETIC FIELD	
PROJECT NO. 7101A-02-98	
Scale: 1"=20'	Date: Dec. 1999
SHEET No. HI	OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	C.O.5R	22



DATE	12/18/99
SURVEY PLOTTED BY	DATE
DESIGNED BY	DATE
CHECKED BY	DATE
ORIGINAL PLAN	DATE
NOTES BOOK	DATE
QUANTITIES BY	DATE
CHECKED BY	DATE

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
10/4/01	Added Tree for Removal.
8/29/01	Revised Inverts of drainage structures
5/31/01	Revised Lined Rectangular Ditch.
9/19/00	Revised azimuth and length of 4x3 Lined Rectangular Ditch.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

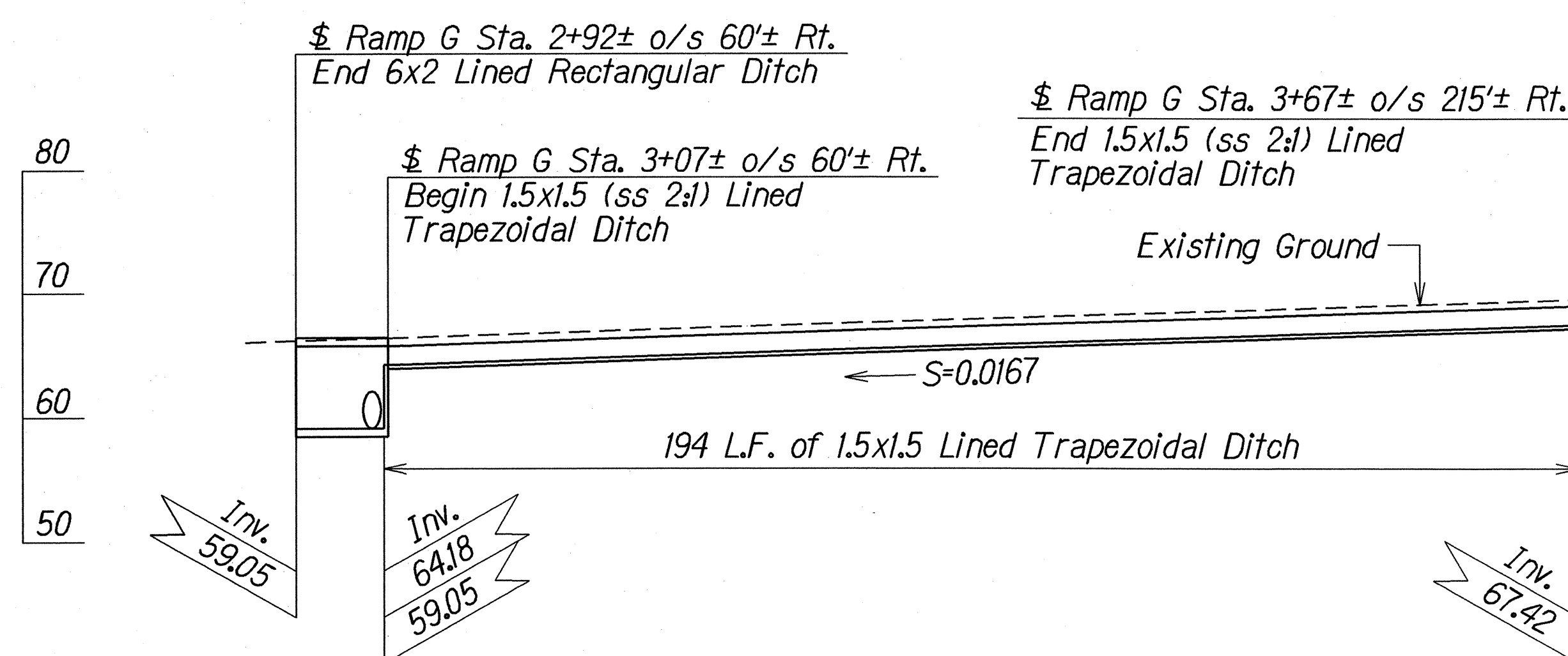
FARRINGTON HIGHWAY RETAINING WALL
ABOVE WAIPAHU HIGH SCHOOL
ATHLETIC FIELD
PROJECT NO. 7101A-02-98

Scale: 1"=20'
Date: Dec. 1999
SHEET No. H2 OF 8 SHEETS

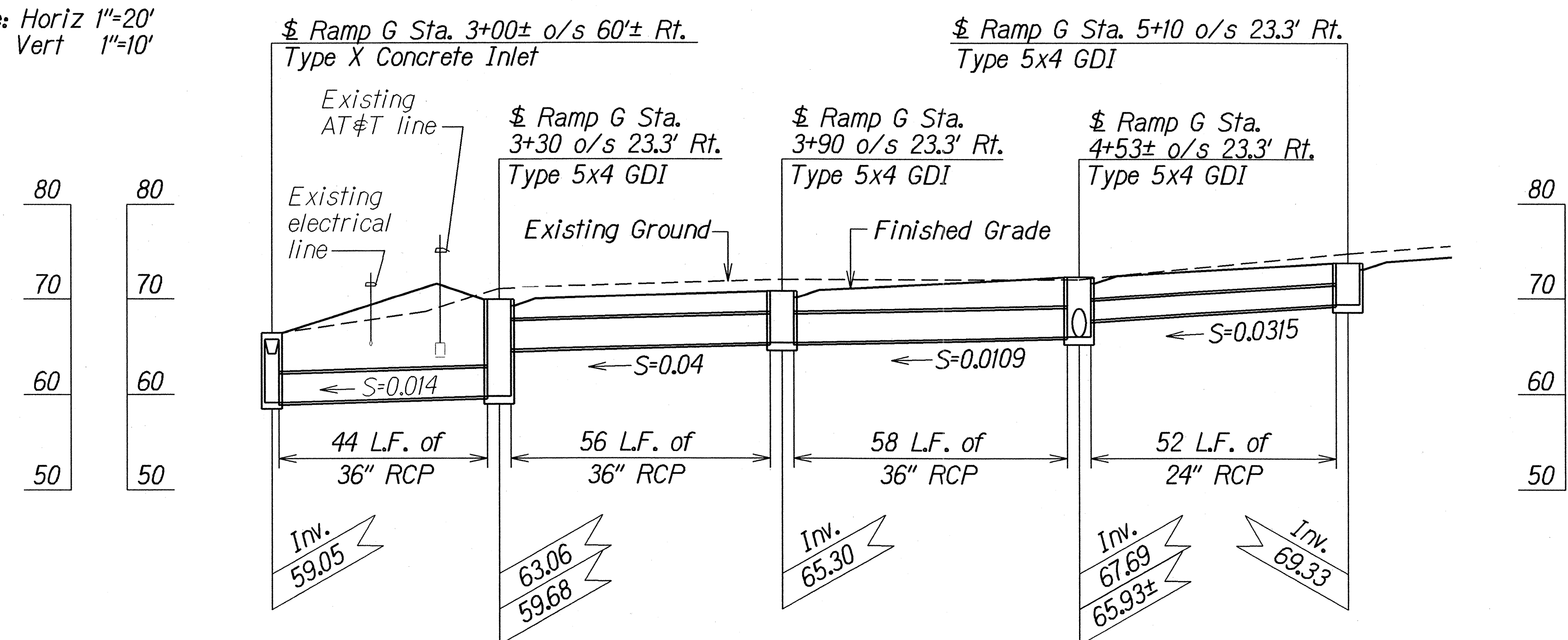
The diagram illustrates a ditch system with the following details:

- Elevations:** The vertical axis on the right shows elevations from 30 to 70 feet.
- Stationing and Ditch Types:**
 - Sta. 9+53± o/s 69± Rt.:** Begin 4x3 Lined Rectangular Ditch.
 - Sta. 11+16± o/s 69± Rt.:** End 4x3 Lined Rectangular Ditch.
 - Sta. 11+26± o/s 69± Rt.:** Begin 6x2 Lined Rectangular Ditch.
 - Ramp G Sta. 1+37± o/s 51± Rt.:** A vertical structure crossing the ditch.
 - Ramp G Sta. 3+07± o/s 60± Rt.:** Begin 1.5x1.5 (ss 2:1) Lined Trapezoidal Ditch.
 - Ramp G Sta. 2+92± o/s 60± Rt.:** End 6x2 Lined Rectangular Ditch.
- Ditch Dimensions and Lengths:**
 - 173 L.F. of 4x3 Lined Rectangular Ditch.
 - 307 L.F. of 6x2 Lined Rectangular Ditch.
- Ground and Slope Data:**
 - Existing Ground:** Indicated by a dashed line.
 - Slope Varies:** Indicated by an arrow pointing to the ground line.
 - S=0.013:** Slope value indicated by an arrow pointing to the ditch bottom line.
 - 10' Transition:** A section of the ditch with a varying slope.
- Invert Elevations (Inv.):**
 - 40.89 at Sta. 9+53±.
 - 48.1 at Sta. 11+16±.
 - 49.7 at Sta. 11+26±.
 - 57.1 at Ramp G Sta. 1+37±.
 - 59.05 at Ramp G Sta. 2+92±.
 - 64.18 and 59.05 at Ramp G Sta. 3+07±.
- Other Features:** An existing electrical line is shown crossing the ditch.

Scale: Horiz 1"=20'
Vert 1"=10'



Scale: Horiz 1"=20'
Vert 1"=10'



Scale: Horiz 1"=20'
Vert 1"=10'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

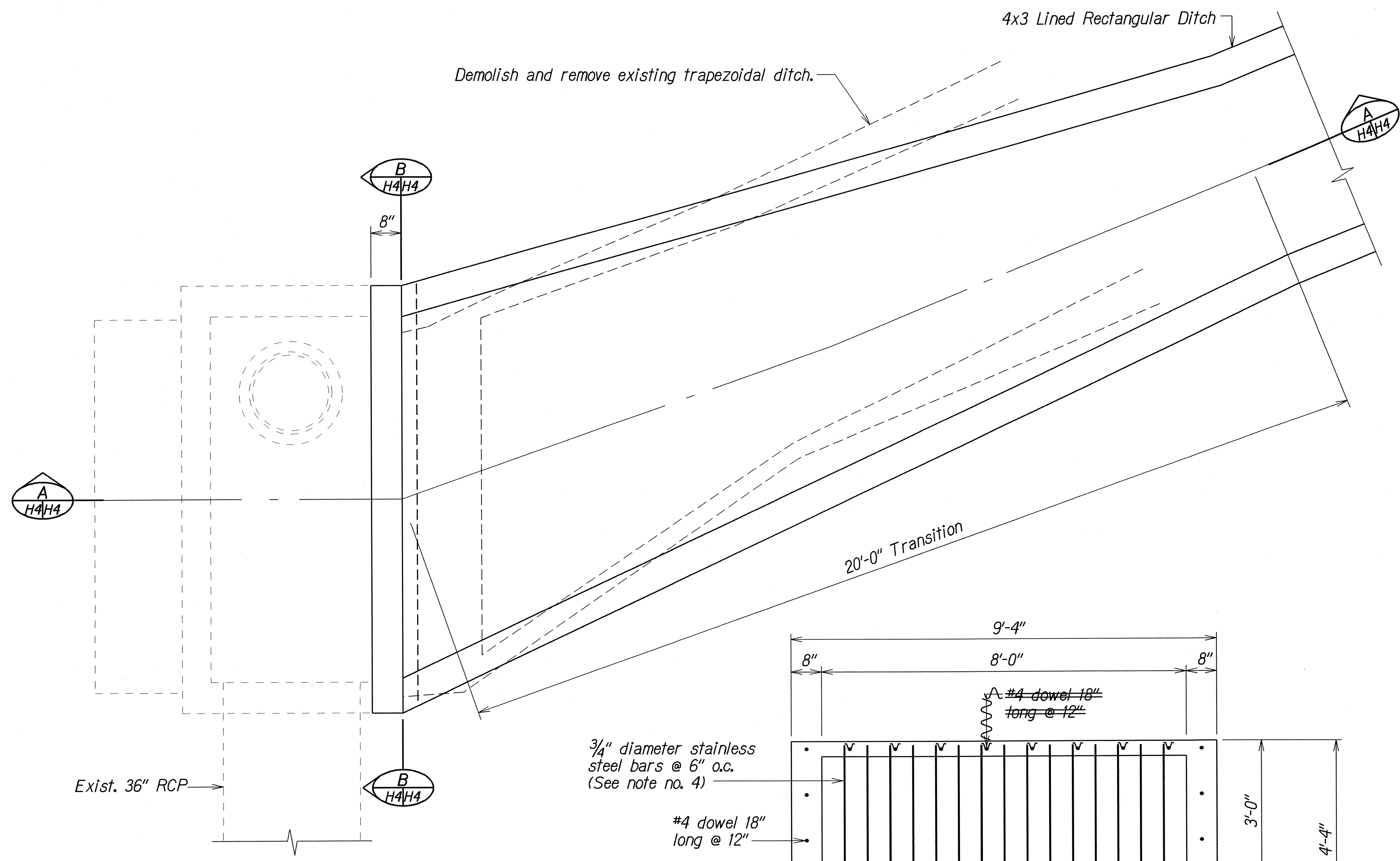
DRAINAGE PROFILE

FARRINGTON HIGHWAY RETAINING WALL
ABOVE WAIPAHU HIGH SCHOOL
ATHLETIC FIELD
PROJECT NO. 7101A-02-98

Scale: As Noted Date: Jan. 2000

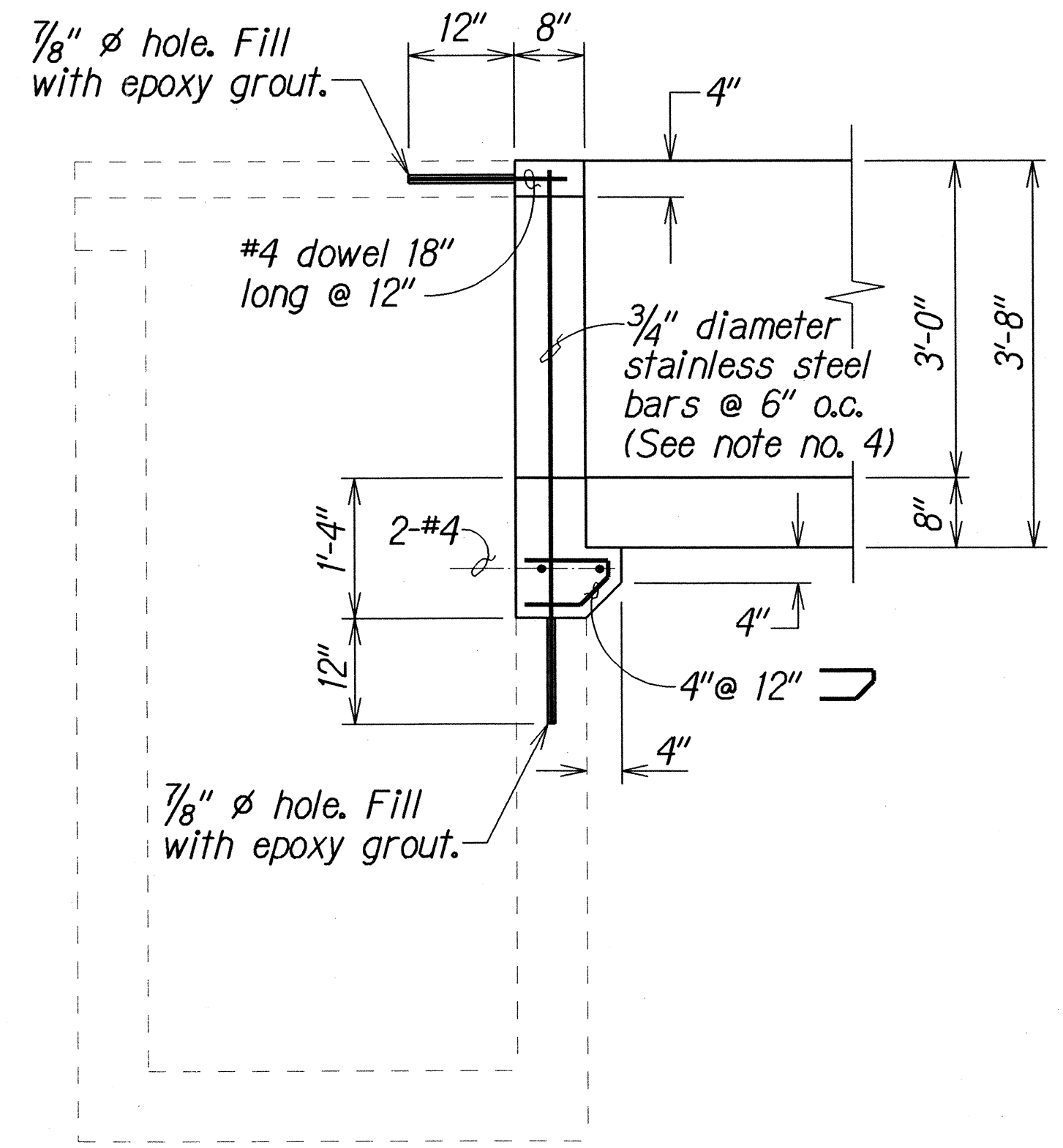
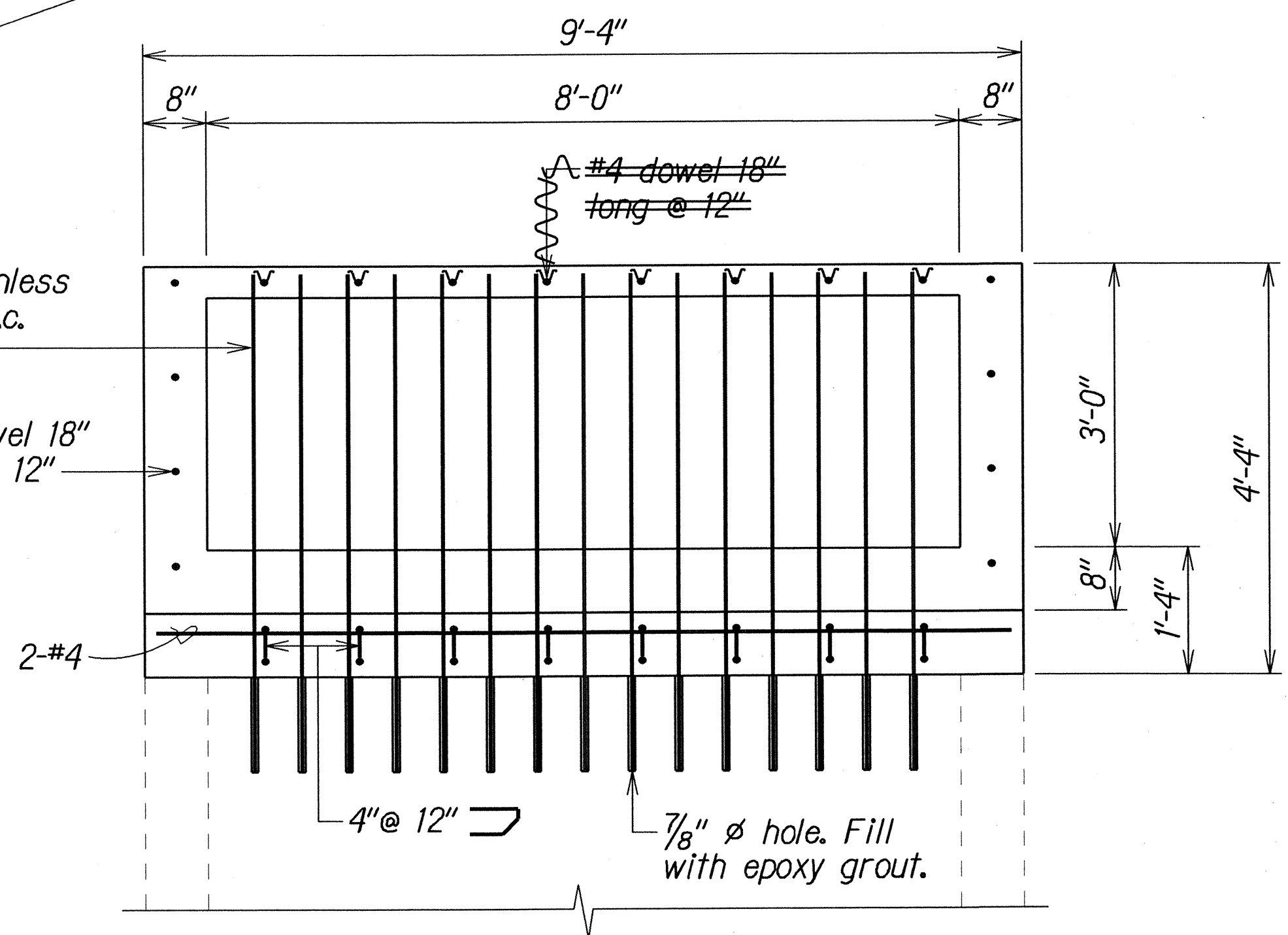
SHEET No. ***H3*** OF ***8*** SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	7	22



PLAN

- Note:**
1. Only non-pneumatic type of drill as approved by the Engineer will be permitted for drilling holes in concrete.
 2. Epoxy shall be ASTM-C881, Type IV, Grade 3, Class C.
 3. Incorporate existing reinforcing into new work. Cut existing bars 2" from surface.
 4. 3/4" Diameter bars shall be AISI 316L stainless steel or AISI 316L stainless steel clad bars.



SECTION A: H4/H4

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
FARRINGTON HIGHWAY RETAINING WALL
ABOVE WAIPAHU HIGH SCHOOL
ATHLETIC FIELD
PROJECT NO. 7101A-02-98

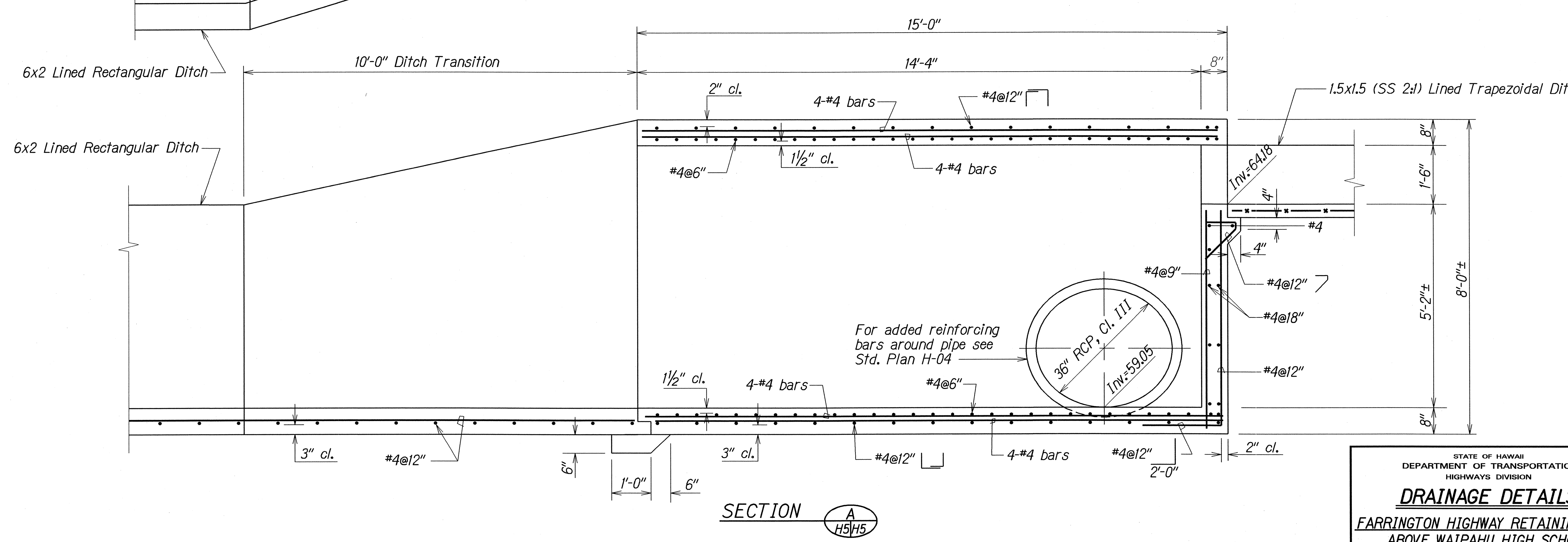
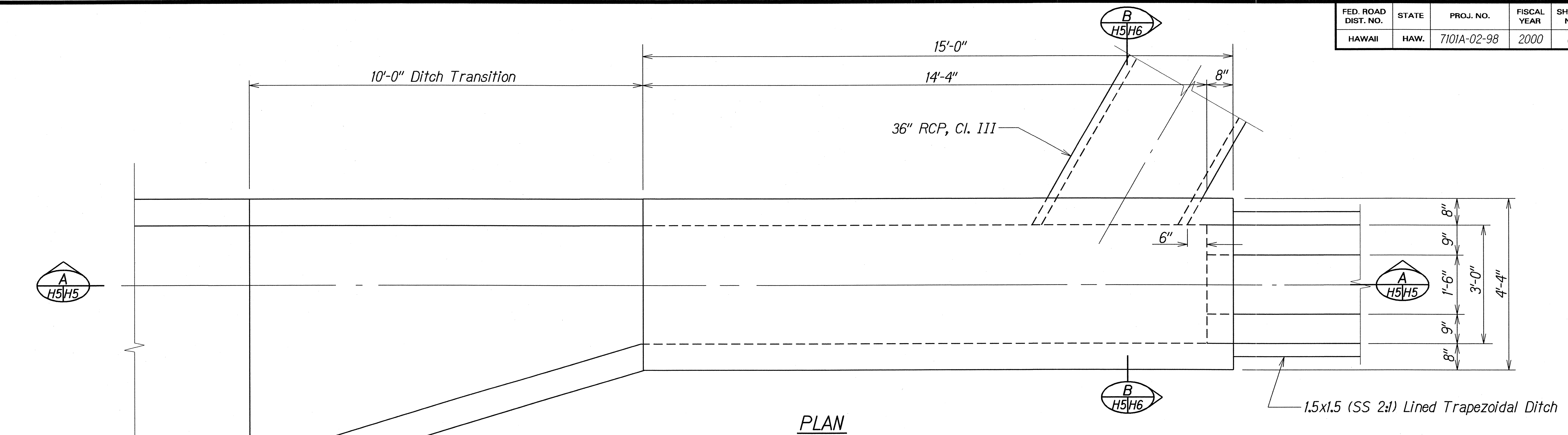
Scale: 3/4"=1'-0"
Date: Dec. 1999

SHEET No. H4 OF 8 SHEETS

CONCRETE DROP INLET AT STA. 9+50± O/S 69± RT.

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	8	22



TYPE X CONCRETE INLET AT \$ RAMP G STA. 3+00± O/S 60'± RT.

DATE	REVISION
8/29/01	Revised Type X Concrete Inlet.
8/23/01	Revised layout of ditch transition.
5/31/01	Revised ditch transition.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

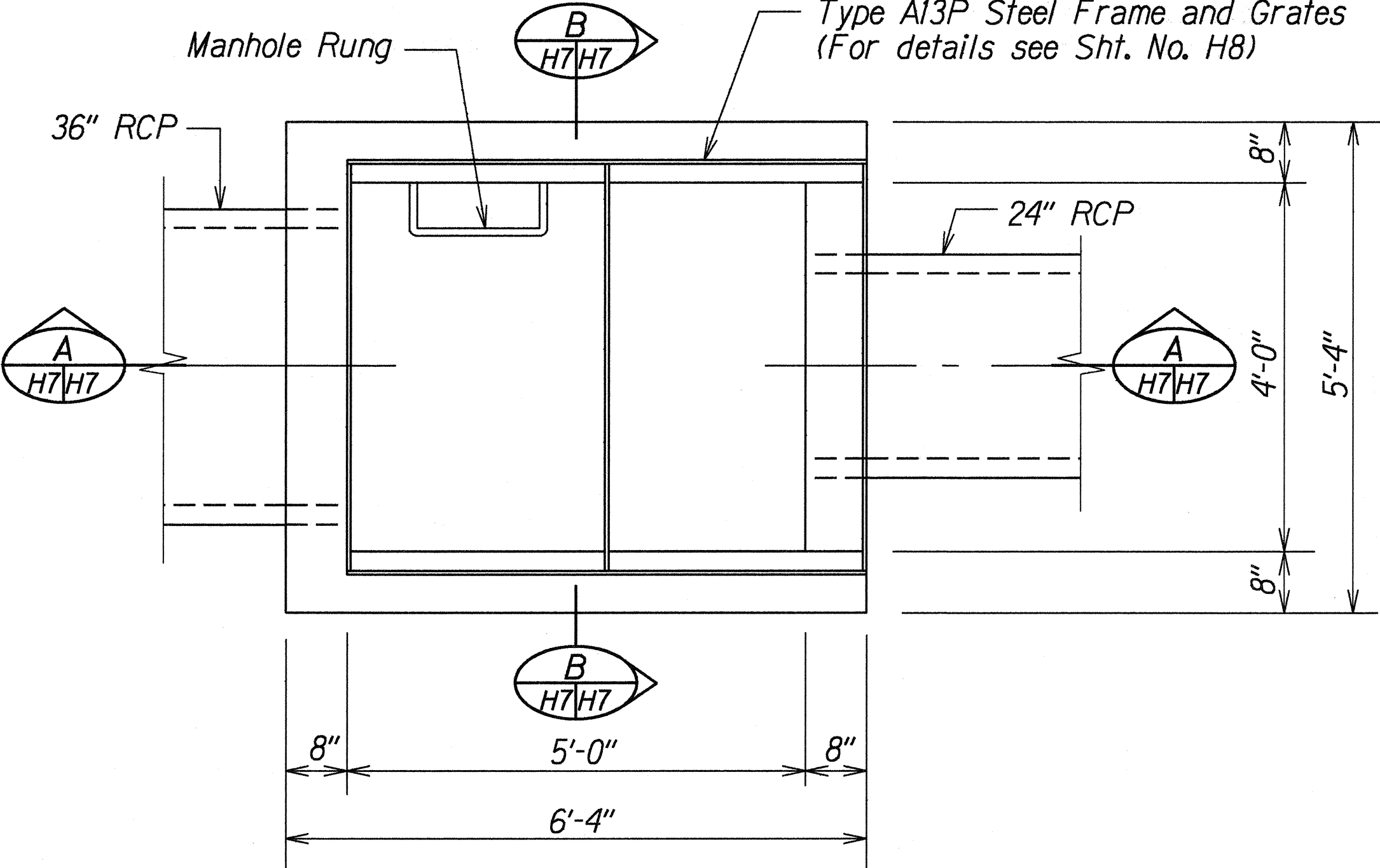
FARRINGTON HIGHWAY RETAINING WALL
ABOVE WAIPAHU HIGH SCHOOL
ATHLETIC FIELD
PROJECT NO. 7101A-02-98

Scale: 3/4"=1'-0" Date: Dec. 1999

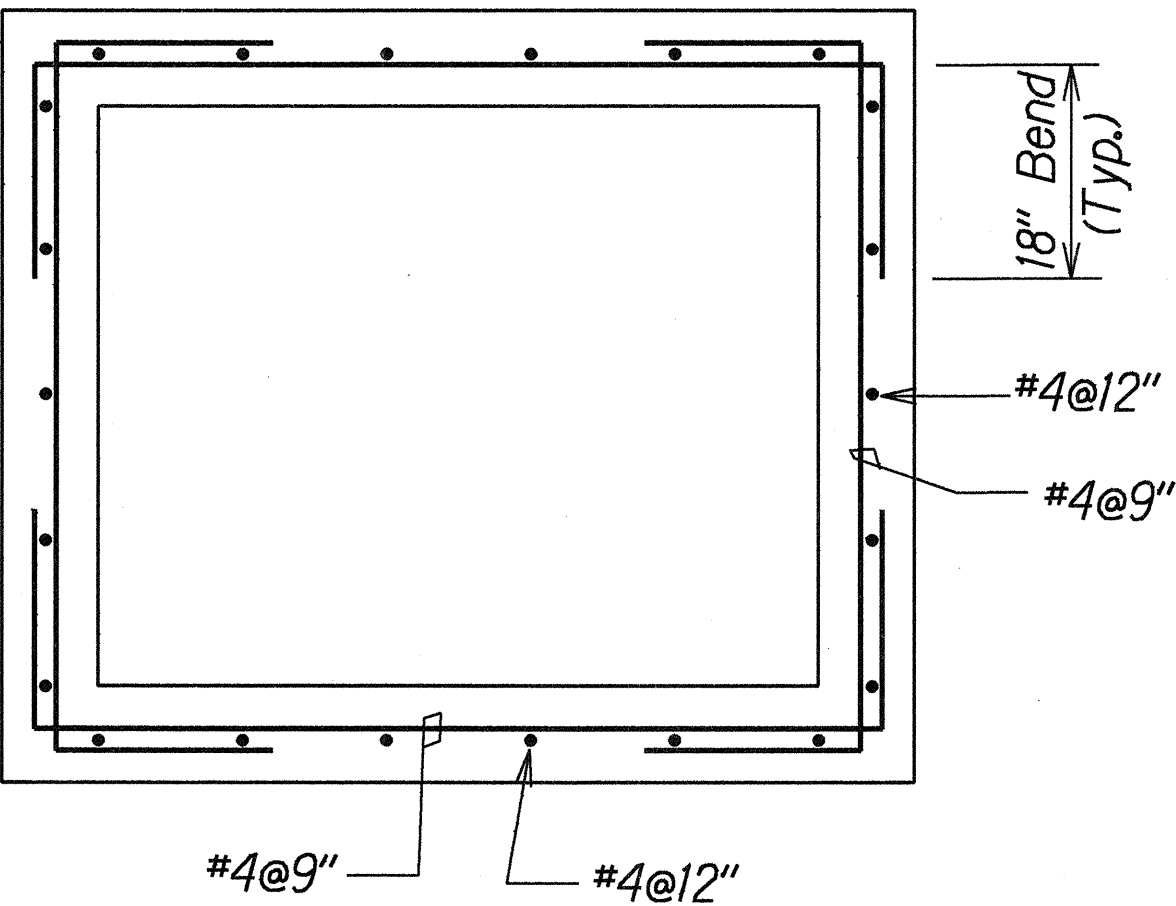
SHEET No. H5 OF 8 SHEETS

ORIGINAL PLAN	DATE 12/10/98
DESIGNED BY J.S.	
CHECKED BY J.S.	
NOTED BY J.S.	
QUANTITIES BY J.S.	
TRACED BY J.S.	
SURVEY PLOTTED BY J.S.	

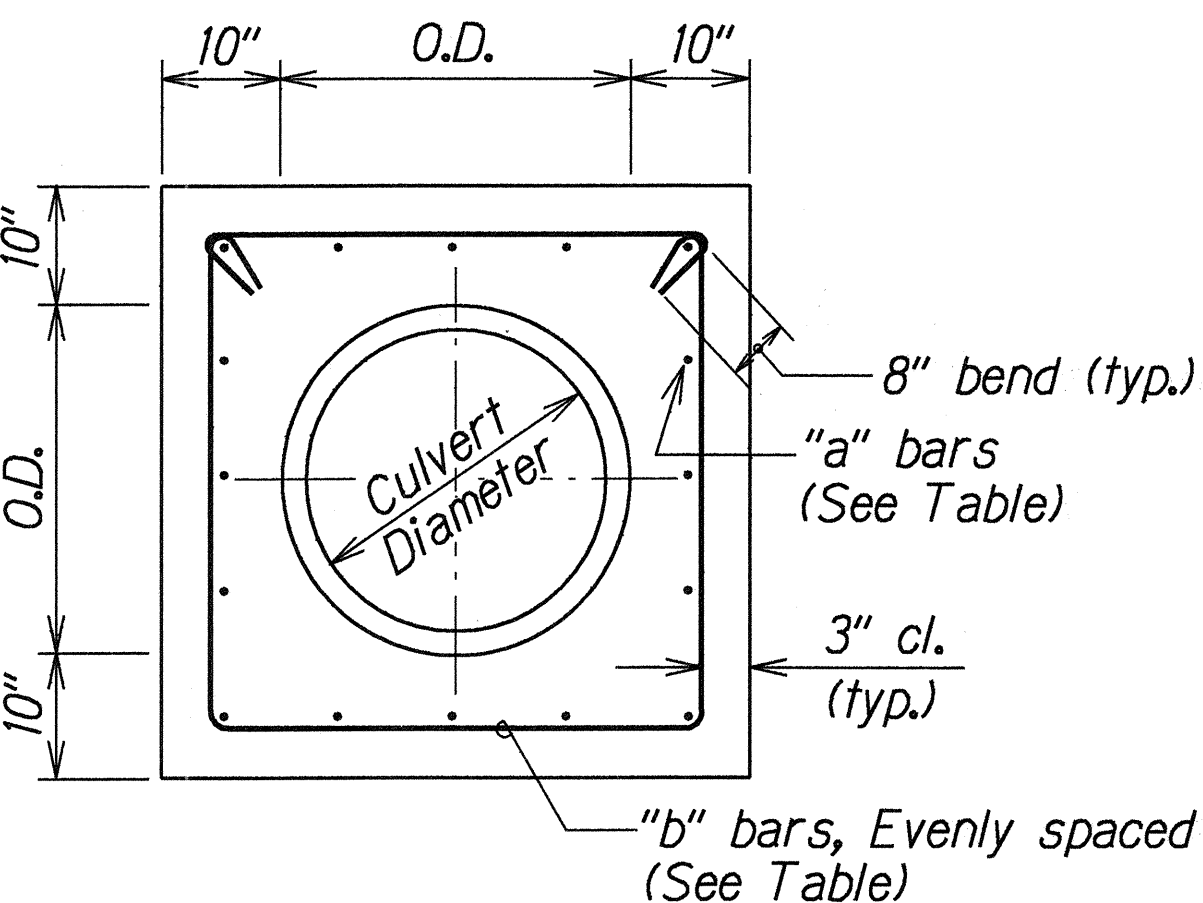
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	10	22



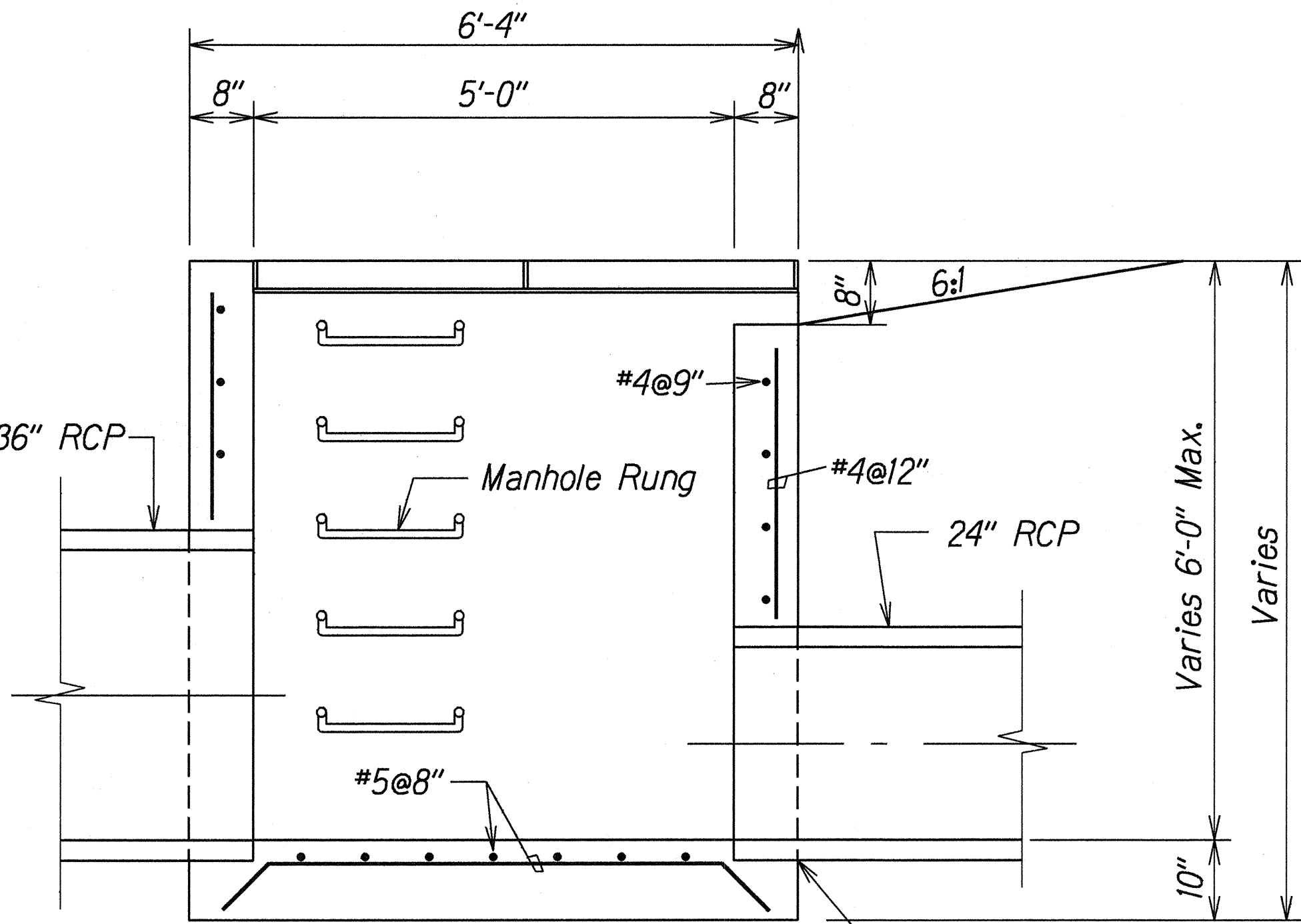
PLAN



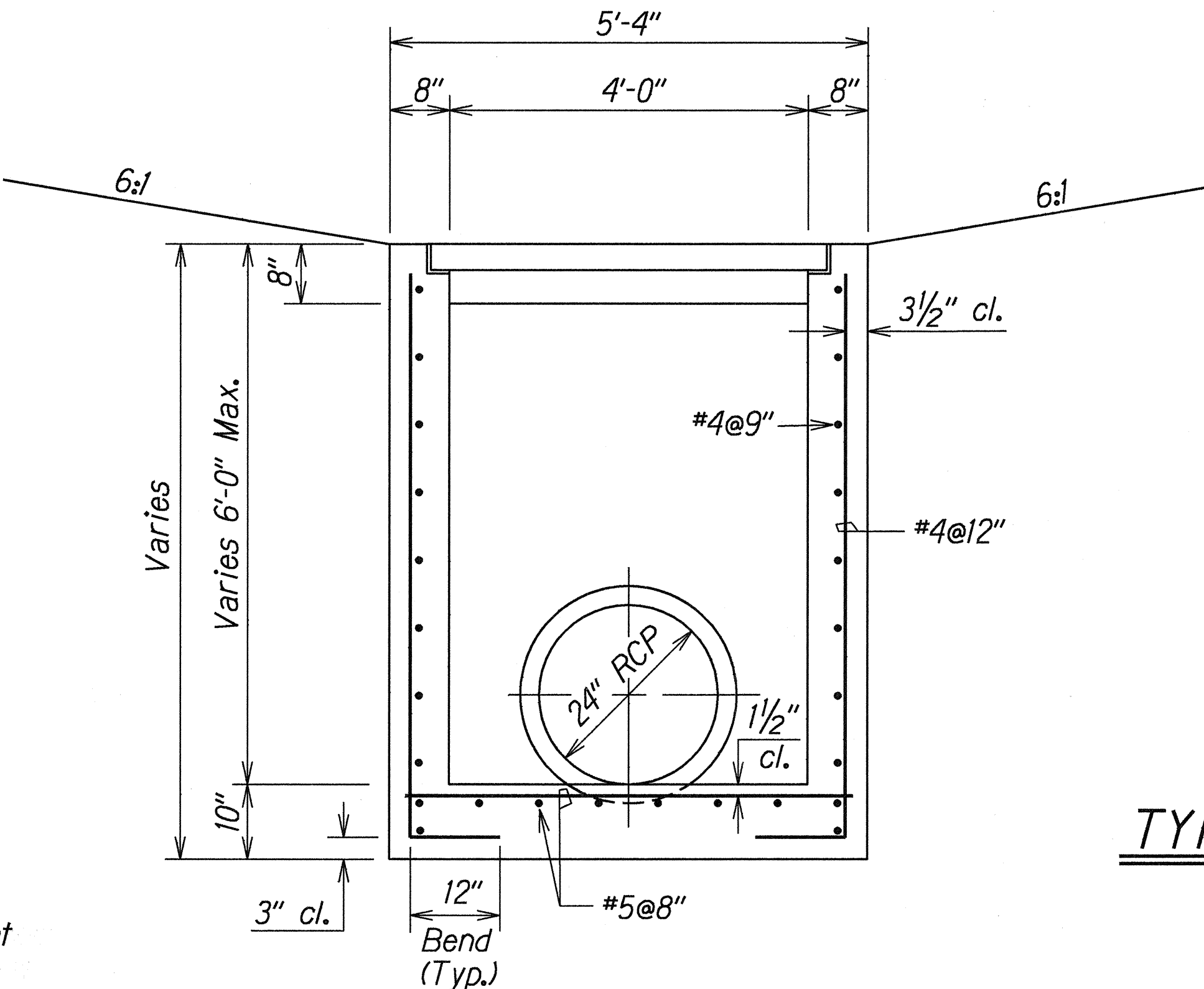
PLAN VIEW OF WALL SECTION



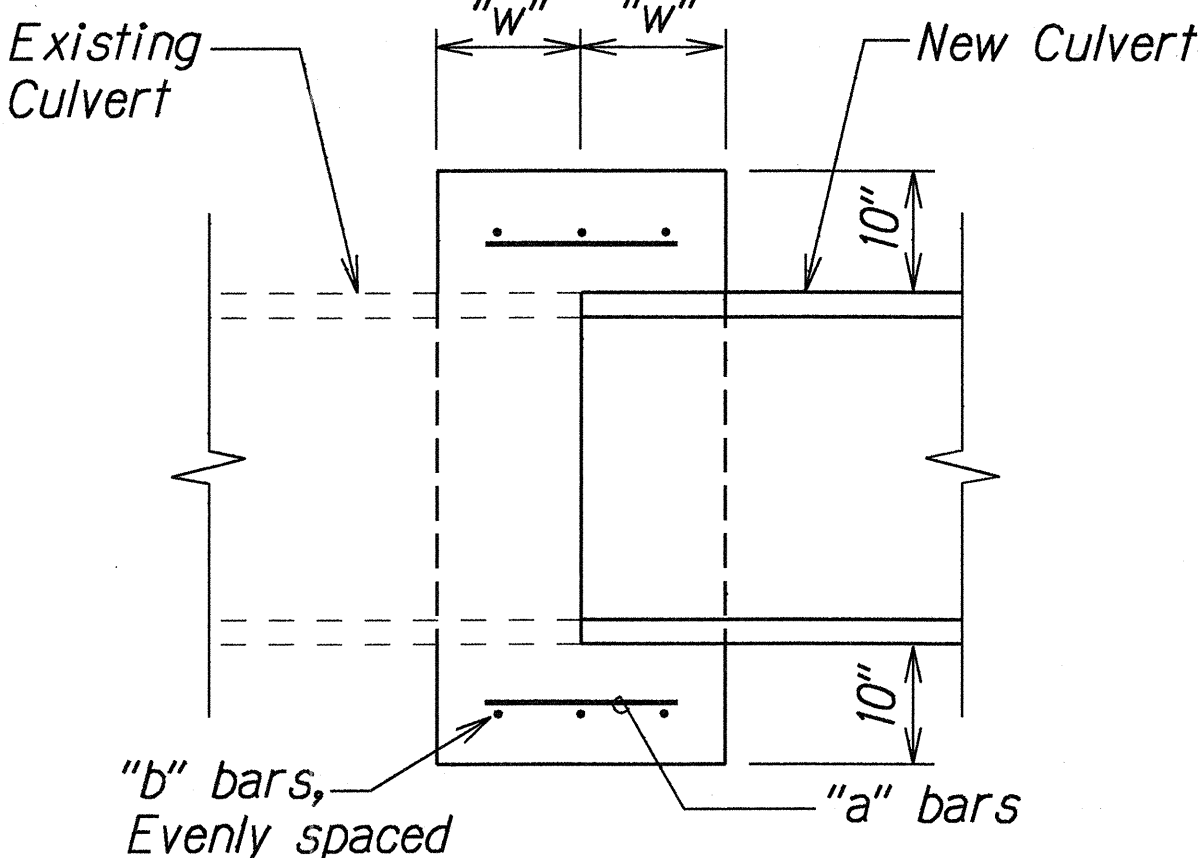
ELEVATION



SECTION A-A



SECTION B-B



SECTION

Culvert Diameter	"a" bars	"b" bars	"w"
18" to 30"	#4 @ 9"	3- #4	12"
36" to 48"	#5 @ 9"	4- #4	15"

Note: Reinforcing Steel for Concrete Collar shall conform to the requirements of ASTM 615-Grade 60.
Concrete Collar shall be incidental to 36" R.C.P.

TYPICAL DETAILS OF REINF. CONC. COLLAR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS
FARRINGTON HIGHWAY RETAINING WALL
ABOVE WAIPAHU HIGH SCHOOL
ATHLETIC FIELD
PROJECT NO. 7101A-02-98

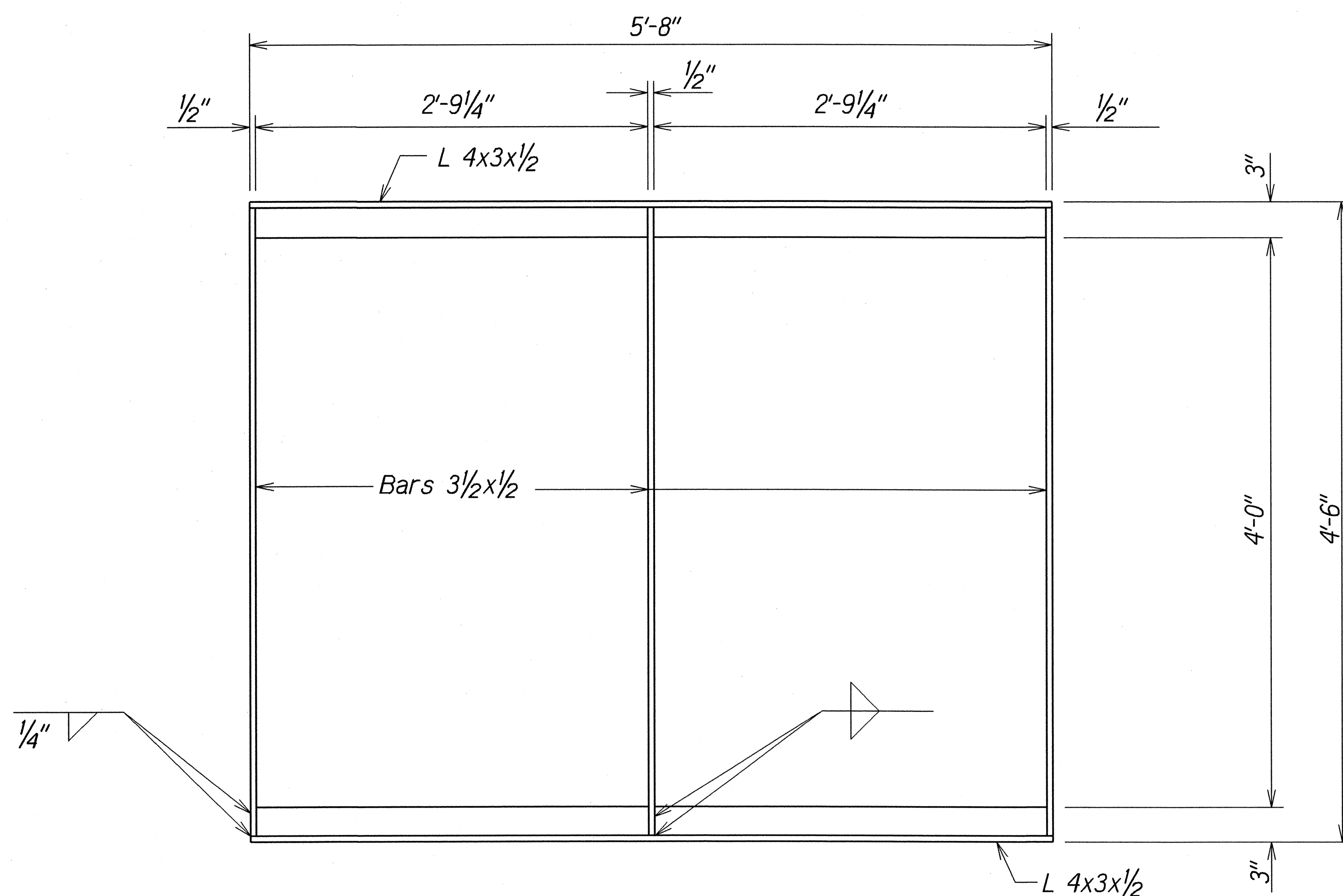
Scale: 3/4"=1'-0"
Date: Dec. 1999

SHEET No. H7 OF 8 SHEETS

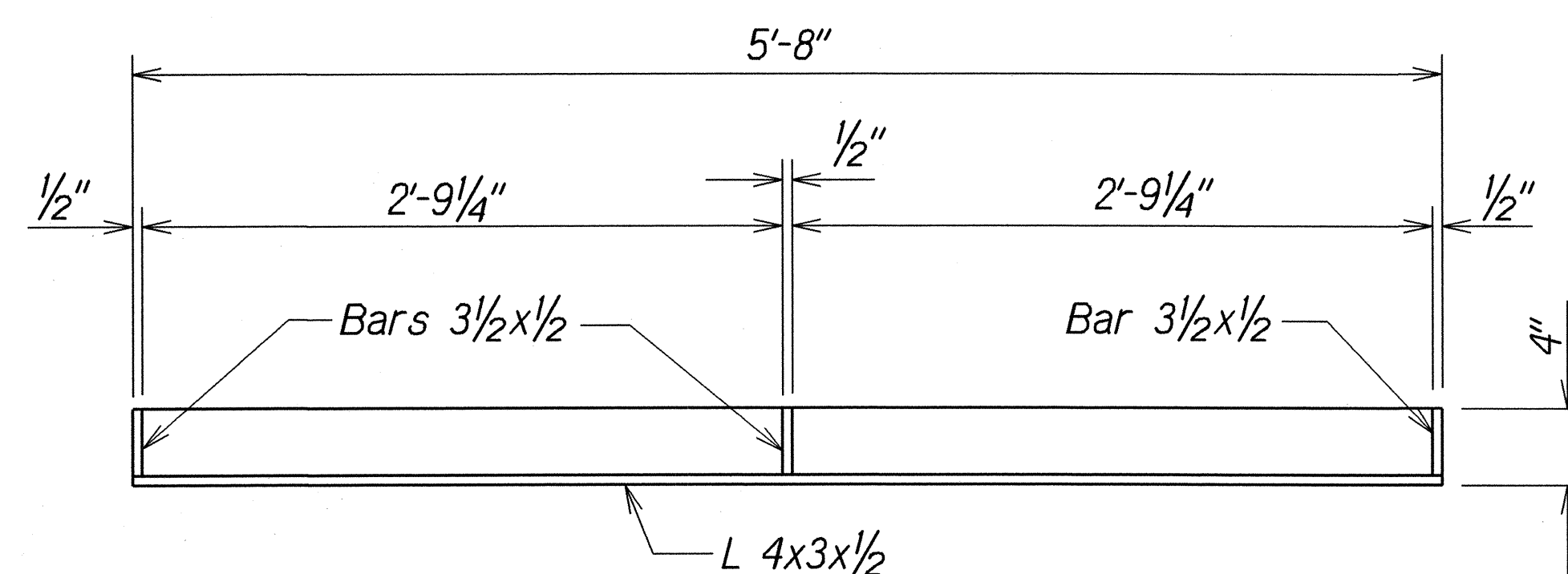
DETAILS OF TYPE 5X4 GRATED DROP INLET

ORIGINAL PLAN	DATE	12/9/99
SURVEY PLOTTED BY		
DRAWN BY		
DESIGNED BY		
CHECKED BY		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-98	2000	11	22

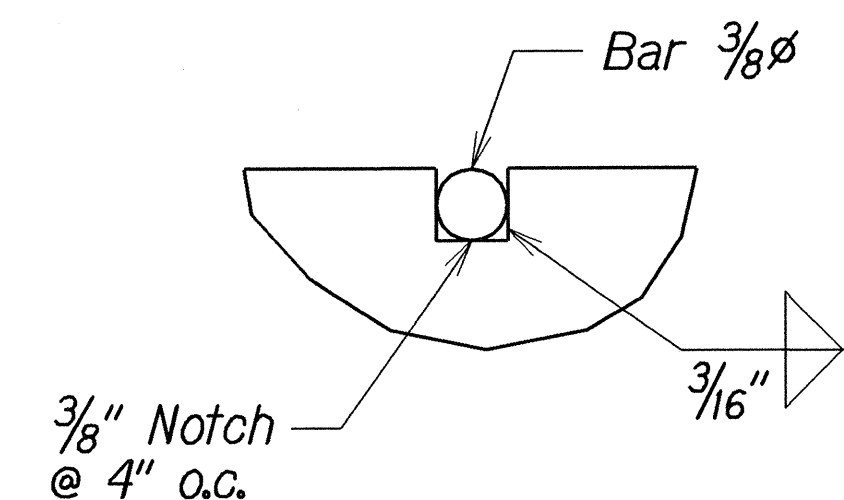


PLAN



SECTION

DETAIL OF FRAME

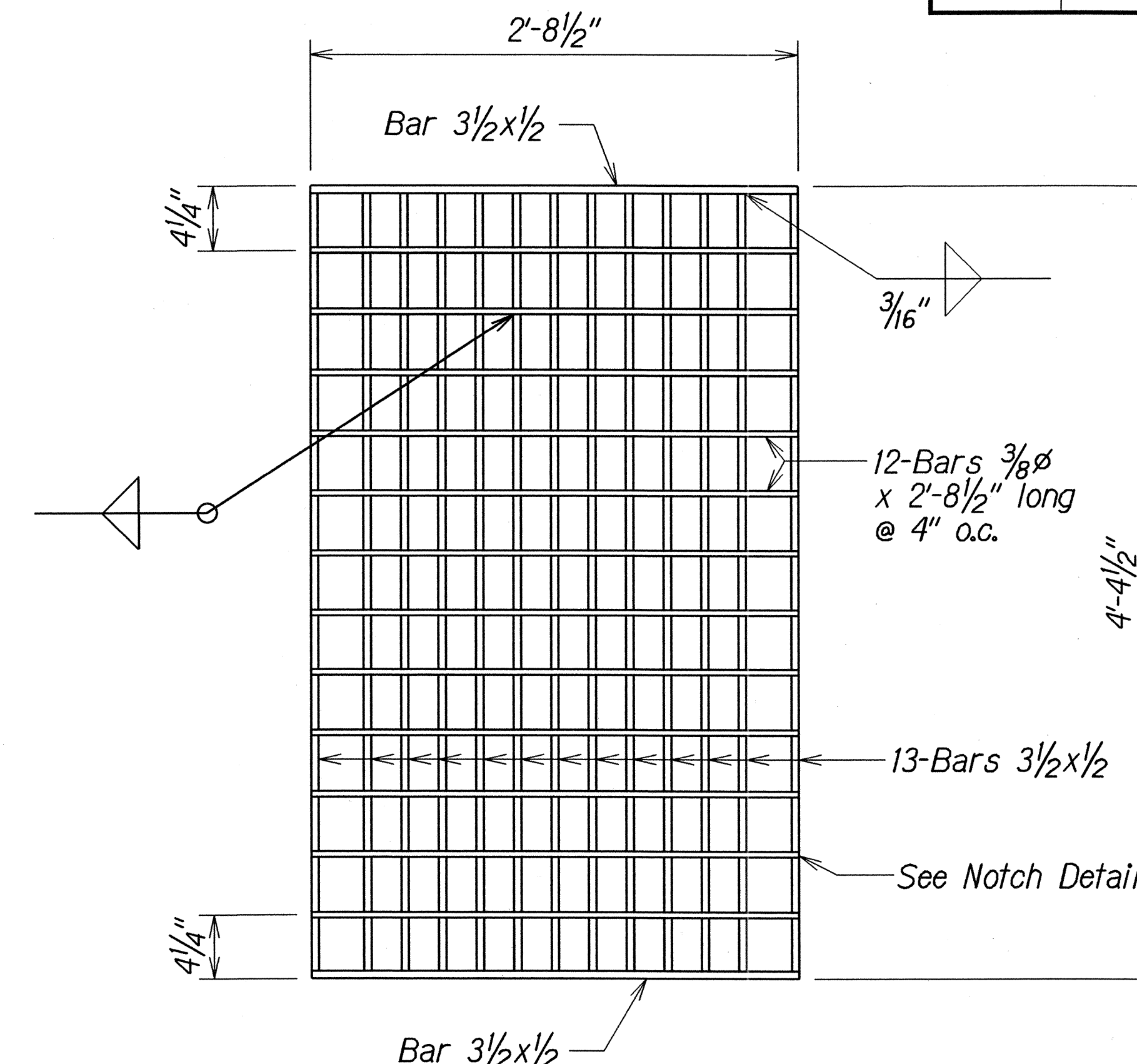


NOTCH DETAIL
Full Size

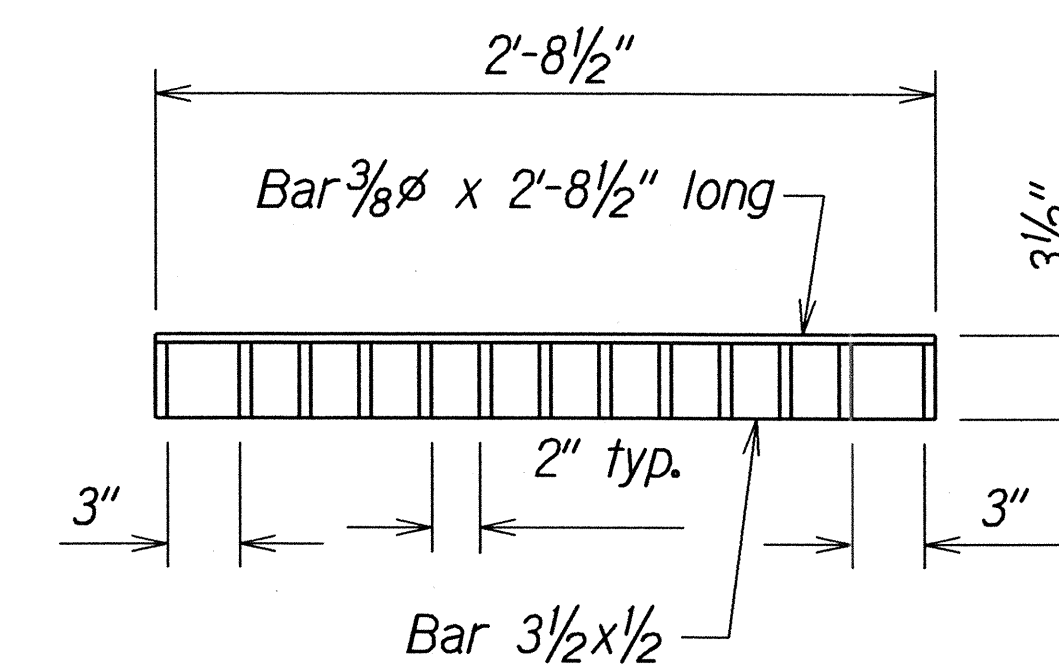
NOTES

1. All welds 3/8" unless otherwise shown.
2. Frame and grates shall be hot dip galvanized after fabrication.
3. All steel shall be Structural Grade, ASTM A615 Grade 40.
4. Steel bars shall conform with ASTM A36.

TYPE A13P STEEL FRAME AND GRATES



PLAN



SECTION

DETAIL OF GRATE

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

FARRINGTON HIGHWAY RETAINING WALL
ABOVE WAIPAHU HIGH SCHOOL
ATHLETIC FIELD
PROJECT NO. 7101A-02-98

Scale: 1 1/2"=1'-0" Date: Jan. 2000

SHEET No. H8 OF 8 SHEETS

"AS-BUILT"