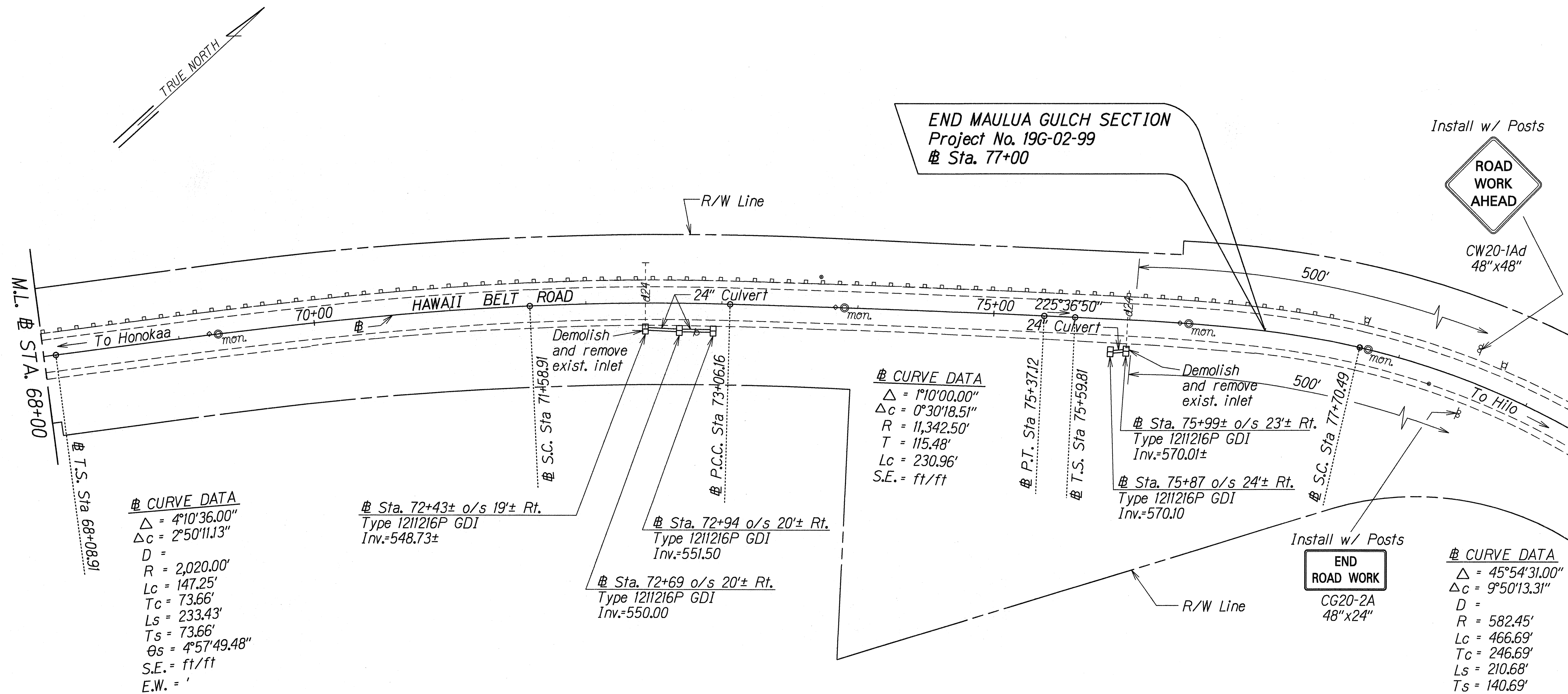


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19G-02-99	2000	5	27



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED	DRAWN BY A. Mouloua	6/8/99
DESIGNED BY C. Malsoda, B. Toda	CHECKED BY	
4/27/99		

Sta. 72+43± o/s 19± Rt.
Construct: Type 1211216P GDI
(For details see Sht. Nos. H14 & H15)
Install: 24" Culvert
(For profile see Sht. No. H8)

Estimated Quantities

Structure Excavation	= 16 C.Y.
Asphalt Concrete Basecourse	= 5 Tons
A.C. Pavement Mix No. IV	= 2 Tons
Bedcourse Material	= 5 C.Y.
24" Culvert	= 22 L.F.
Type 1211216P GDI	
3.00 ft. to 3.99 ft.	= 2 Ea.

Sta. 72+69 o/s 20± Rt.
Construct: Type 1211216P GDI
Install: 24" Culvert

Estimated Quantities

Structure Excavation	= 16 C.Y.
Asphalt Concrete Basecourse	= 5 Tons
A.C. Pavement Mix No. IV	= 2 Tons
Bedcourse Material	= 5 C.Y.
24" Culvert	= 22 L.F.
Type 1211216P GDI	
3.00 ft. to 3.99 ft.	= 1 Ea.

Sta. 75+87 o/s 24± Rt.
Construct: Type 1211216P GDI
Install: 24" Culvert
(For profile see Sht. No. H8)

Estimated Quantities

Structure Excavation	= 8 C.Y.
Asphalt Concrete Basecourse	= 2 Tons
A.C. Pavement Mix No. IV	= 1 Tons
Bedcourse Material	= 2 C.Y.
24" Culvert	= 9 L.F.
Type 1211216P GDI	
3.00 ft. to 3.99 ft.	= 1 Ea.
Type 1211216P GDI	
4.00 ft. to 4.99 ft.	= 1 Ea.

PLAN-LOCATION 1, VICINITY OF MAULUA GULCH

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

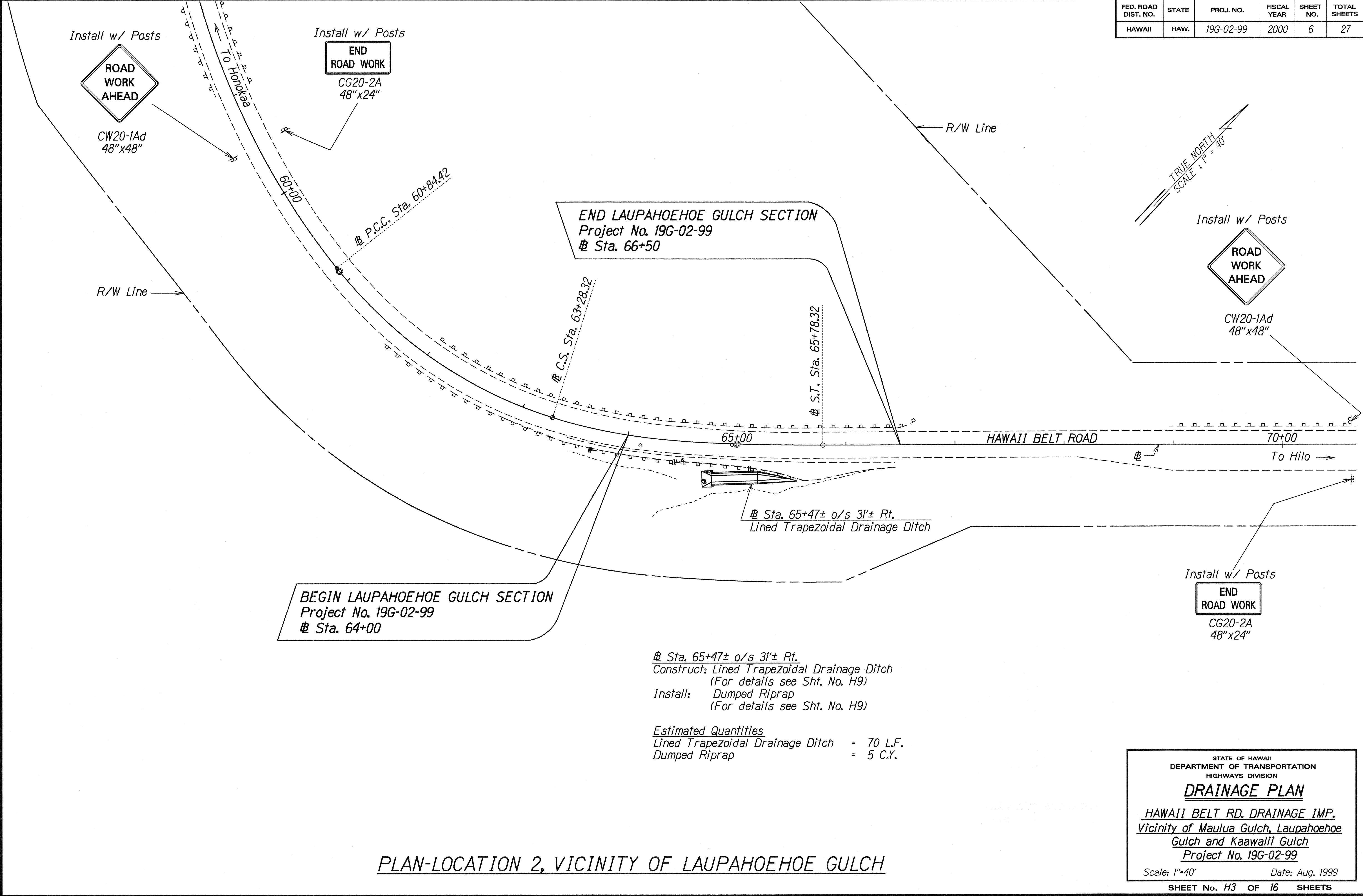
DRAINAGE PLAN

HAWAII BELT RD. DRAINAGE IMP.
Vicinity of Maulua Gulch, Laupahoehoe
Gulch and Kaawalii Gulch
Project No. 19G-02-99

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

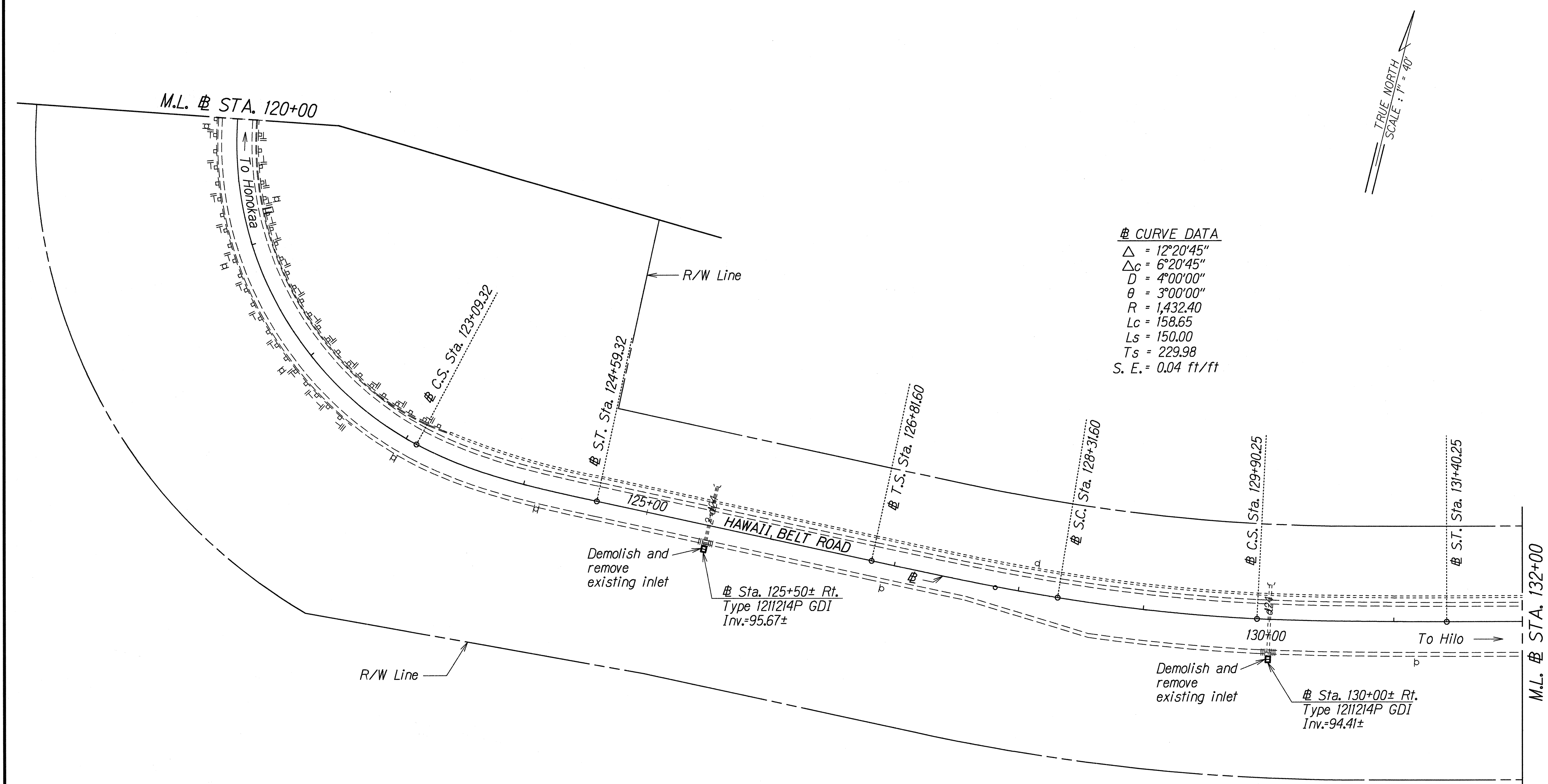
SHEET No. H2 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19G-02-99	2000	6	27



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY A. Nomura	8/4/99
DESIGNED BY C. Matsuda, B. Toda		
CHECKED BY		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19G-02-99	2000	9	27



Curve Data
 $\Delta = 12^\circ 20' 45''$
 $\Delta_c = 6^\circ 20' 45''$
 $D = 4^\circ 00' 00''$
 $\theta = 3^\circ 00' 00''$
 $R = 1,432.40$
 $L_c = 158.65$
 $L_s = 150.00$
 $T_s = 229.98$
 $S.E. = 0.04 \text{ ft/ft}$

TRUE NORTH
 SCALE: 1" = 40'

Demolish and remove existing inlet

Sta. 125+50± Rt.
 Type 1211214P GDI
 Inv.=95.67±

Demolish and remove existing inlet

Sta. 130+00± Rt.
 Type 1211214P GDI
 Inv.=94.41±

Sta. 125+50± Rt.
 Construct: Type 1211214P GDI
 (For typical details see Sht.
 Nos. H14 & H15)

Estimated Quantities
 Type 1211214P GDI = 1 Ea.
 2.00 ft. to 2.99 ft.

Sta. 130+00± Rt.
 Construct: Type 1211214P GDI

Estimated Quantities
 Type 1211214P GDI
 4.00 ft. to 4.99 ft. = 1 Ea.

PLAN-LOCATION 3, VICINITY OF KAAWALII GULCH

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED BY	DRAWN BY	8/1/99
DESIGNED BY	CHECKED BY	
DATE		

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

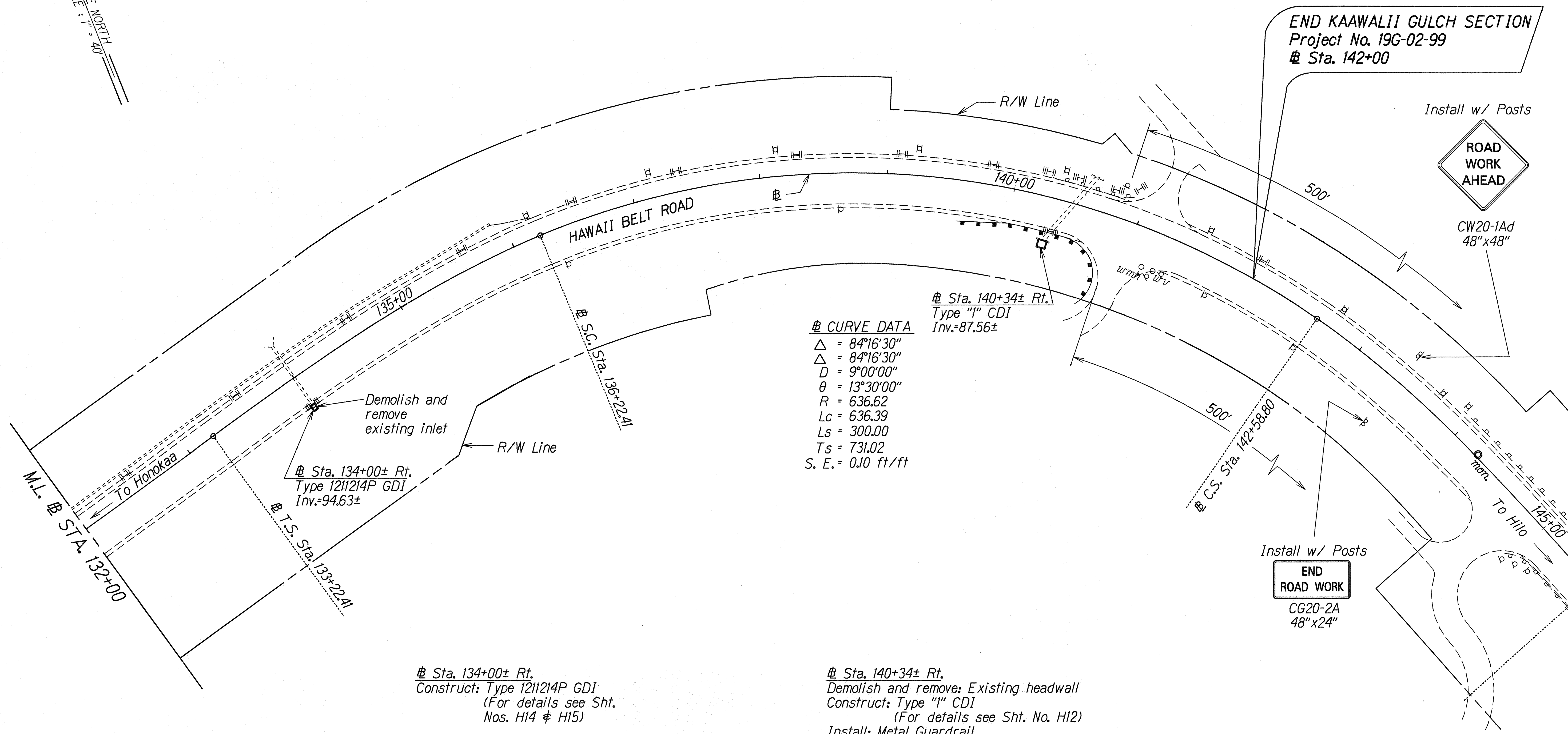
DRAINAGE PLAN
 HAWAII BELT RD. DRAINAGE IMP.
 Vicinity of Maulua Gulch, Laupahoehoe
 Gulch and Kaawalii Gulch
 Project No. 19G-02-99

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

SHEET No. H6 OF 16 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19G-02-99	2000	10	27

TRUE NORTH
SCALE: 1" = 40'



CURVE DATA
 $\Delta = 84^{\circ}16'30''$
 $\Delta = 84^{\circ}16'30''$
 $D = 9^{\circ}00'00''$
 $\theta = 13^{\circ}30'00''$
 $R = 636.62$
 $L_c = 636.39$
 $L_s = 300.00$
 $T_s = 731.02$
 $S. E. = 0.10 \text{ ft/ft}$

Sta. 134+00± Rt.
Construct: Type 1211214P GDI
(For details see Sht. Nos. H14 & H15)

Estimated Quantities
Type 1211214P GDI = 1 Ea.
2.00 ft. to 2.99 ft.

Sta. 140+34± Rt.
Demolish and remove: Existing headwall
Construct: Type 11' CDI
(For details see Sht. No. H12)
Install: Metal Guardrail
(For details see Plan Sht. No. 20)

Estimated Quantities
Type 11' CDI = 1 Ea.
5.00 ft. to 5.99 ft.

PLAN-LOCATION 3, VICINITY OF KAAWALII GULCH

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	8/1/99
DRAWN BY	
DESIGNED BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE PLAN
HAWAII BELT RD. DRAINAGE IMP.
Vicinity of Maulua Gulch, Laupahoehoe
Gulch and Kaawalii Gulch
Project No. 19G-02-99
Scale: 1"=40' Date: Aug. 1999
SHEET No. H7 OF 16 SHEETS