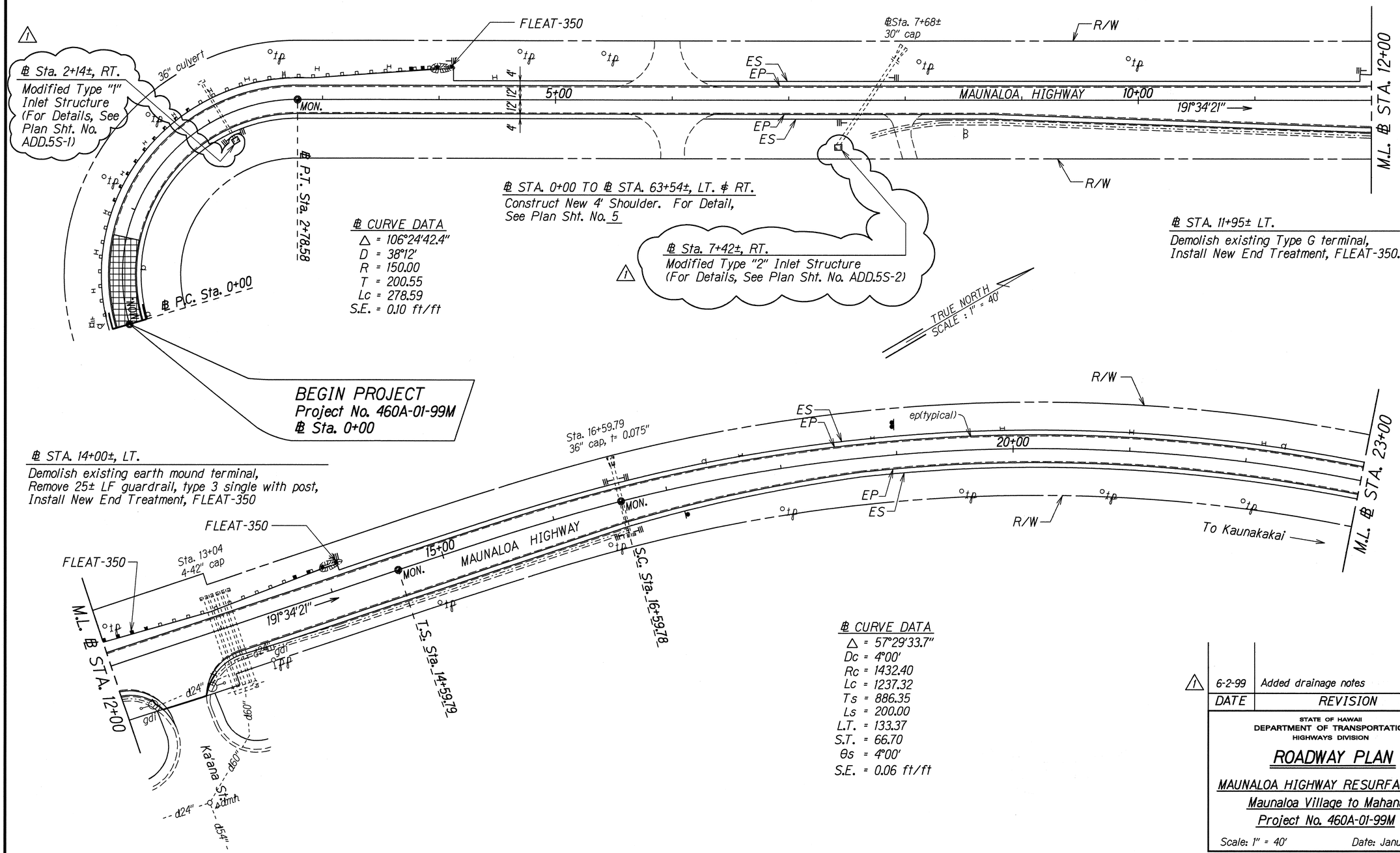
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	ADD.12	41

℄ STA. 1+00± TO ℄ STA. 2+00±, LT.
Remove and Replace 100 L.F. guardrail
Type 3, single with post

℄ STA. 4+00±, LT.
Demolish existing earth mound terminal
Remove 25± L.F. guardrail, Type 3 single with post
Install New End Treatment, FLEAT-350.

TRUE NORTH
SCALE : 1" = 40'



℄ CURVE DATA
Δ = 57°29'33.7"
Dc = 4°00'
Rc = 1432.40
Lc = 1237.32
Ts = 886.35
Ls = 200.00
L.T. = 133.37
S.T. = 66.70
θs = 4°00'
S.E. = 0.06 ft/ft

DATE	REVISION
6-2-99	Added drainage notes

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

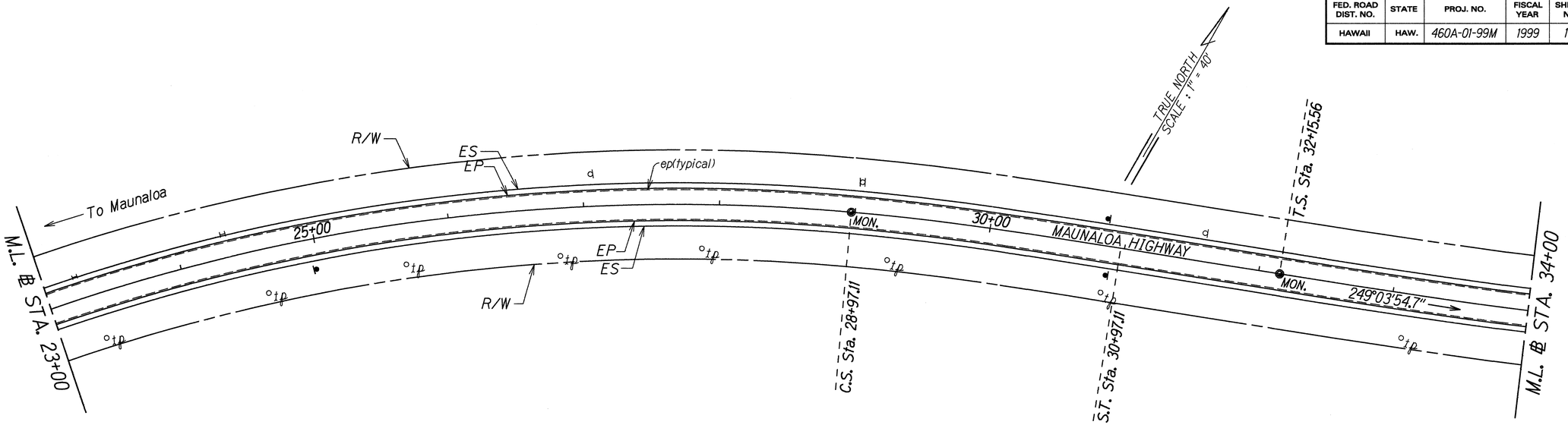
Scale: 1" = 40' Date: January, 1999

SHEET No. 1 OF 14 SHEETS

ADD.12

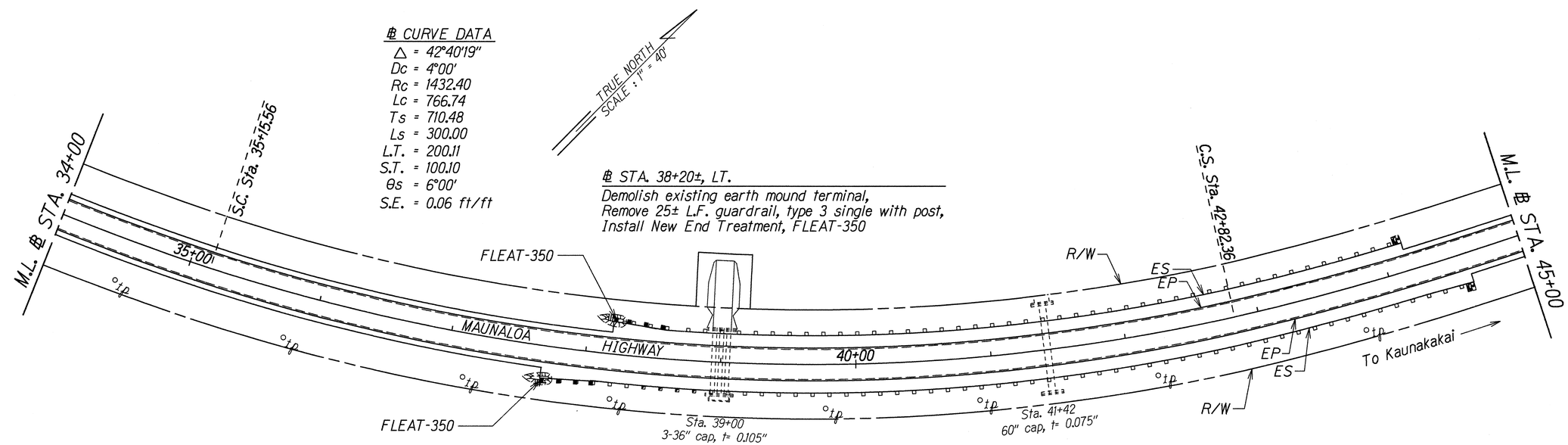
ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY JT 12/8/99
TRACED BY
DESIGNED BY TM
NOTE BOOK
QUANTITIES BY
CHECKED BY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	13	41



℄ CURVE DATA

Δ = 42°40'19"
Dc = 4°00'
Rc = 1432.40
Lc = 766.74
Ts = 710.48
Ls = 300.00
L.T. = 200.11
S.T. = 100.10
θs = 6°00'
S.E. = 0.06 ft/ft



℄ STA. 38+20±, LT.

Demolish existing earth mound terminal,
Remove 25± L.F. guardrail, type 3 single with post,
Install New End Treatment, FLEAT-350

℄ STA. 37+85±, RT.

Demolish existing earth mound terminal,
Remove 25± L.F. guardrail, type 3 single with post,
Install New End Treatment, FLEAT-350

℄ STA. 38+35± to ℄ STA. 38+85±, Rt.

Remove and replace 50 LF guardrail,
type 3 single with post

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 6/98
	DRAWN BY JC	
	TRACED BY	
NOTE BOOK	DESIGNED BY JM	
1997/1 Tedd/y	QUANTITIES BY	
Kaumalapau	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

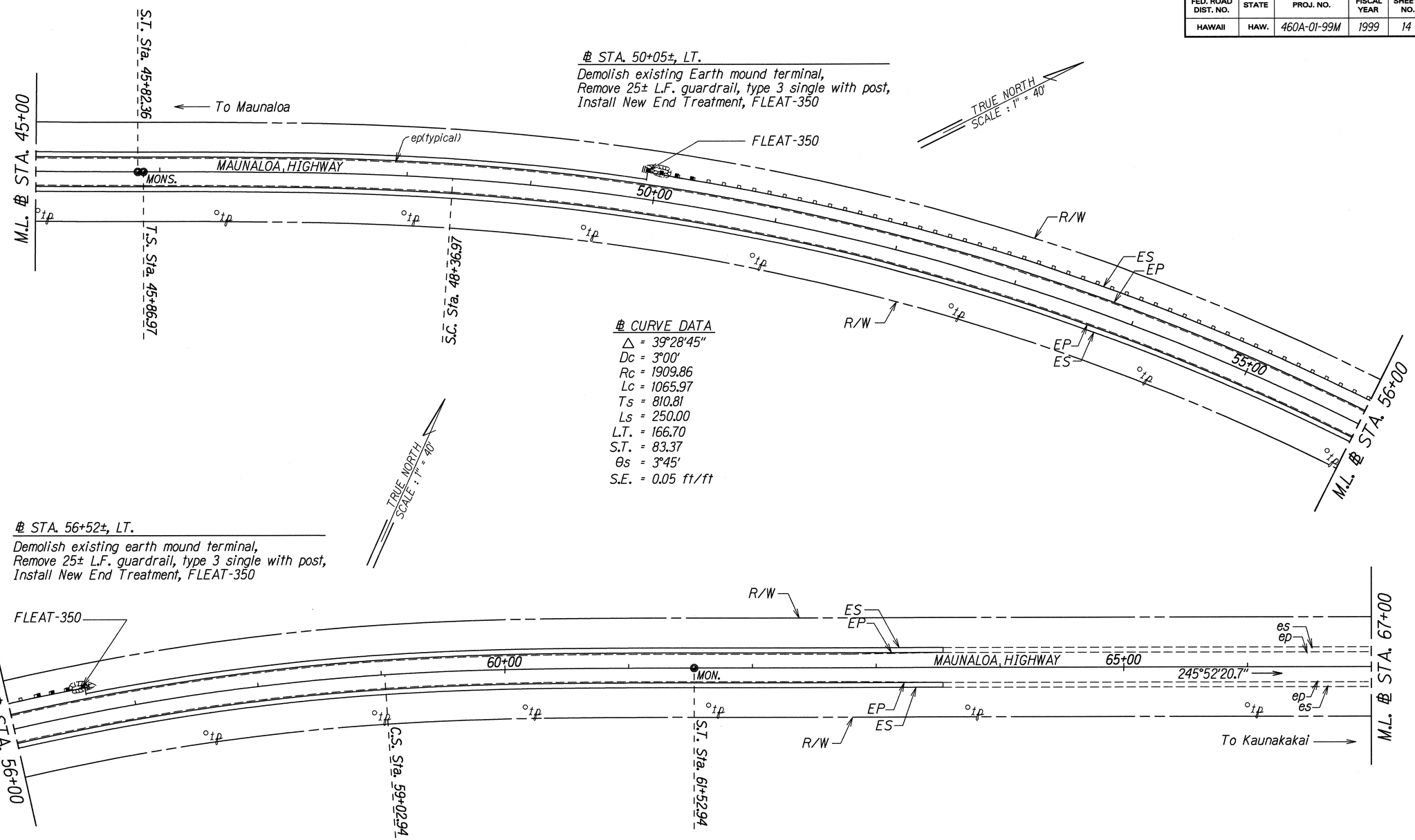
ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 2 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	14	41



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 5/98
	DRAWN BY LD	
	TRACED BY	
NOTE BOOK 100% Rdy	DESIGNED BY TM	
Sheet mp3.dgn	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

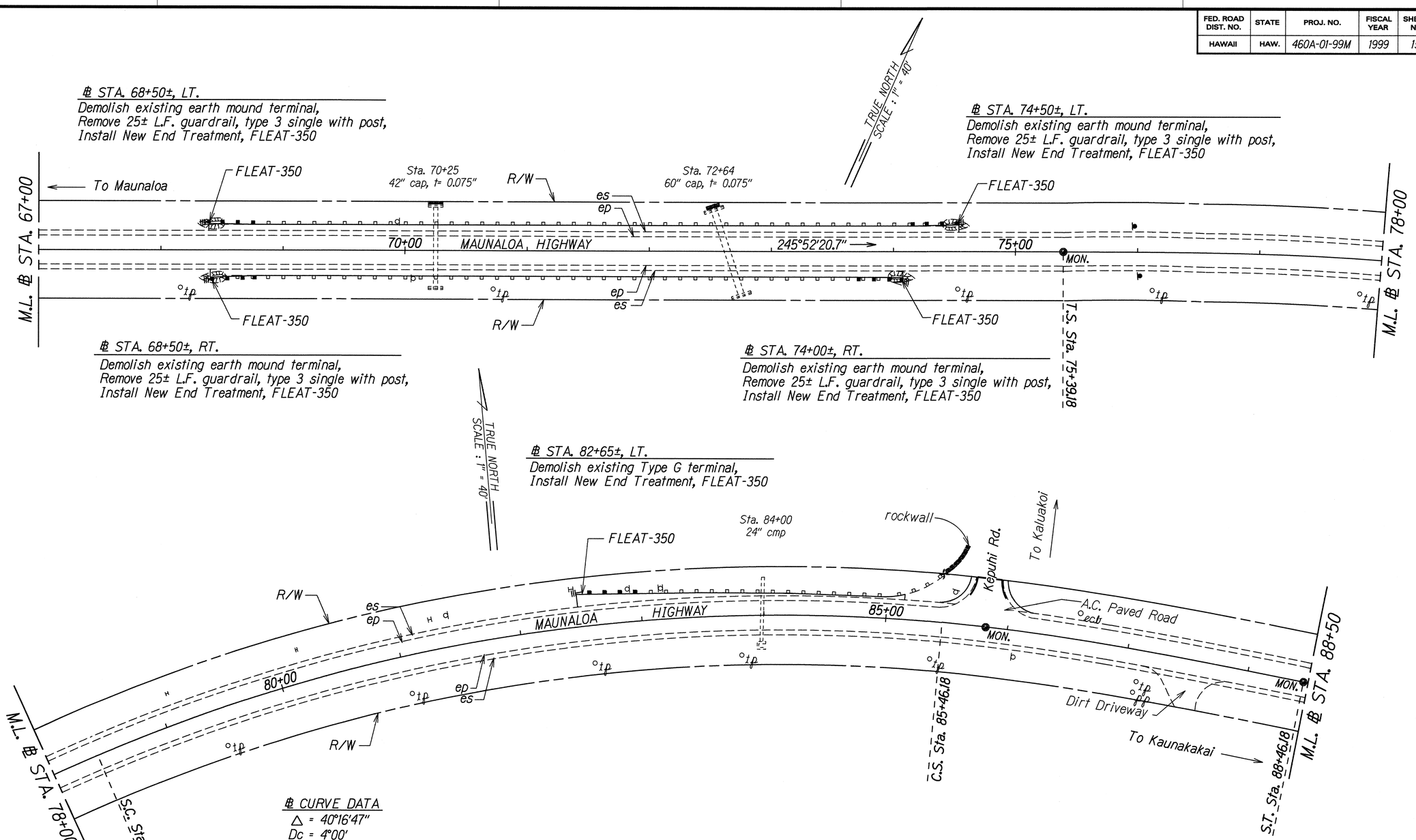
ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 3 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	15	41



℄ CURVE DATA

Δ = 40°16'47"
Dc = 4°00'
Rc = 1432.40'
Lc = 707.00'
Ts = 676.23'
Ls = 300.00'
L.T. = 200.11'
S.T. = 100.10'
θs = 6°00'
S.E. = 0.06 ft/ft

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY JJ
TRACED BY
DESIGNED BY TM
QUANTITIES BY
CHECKED BY
DATE 5/98
NOTE BOOK
log/h. teddy
maunpl.dgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

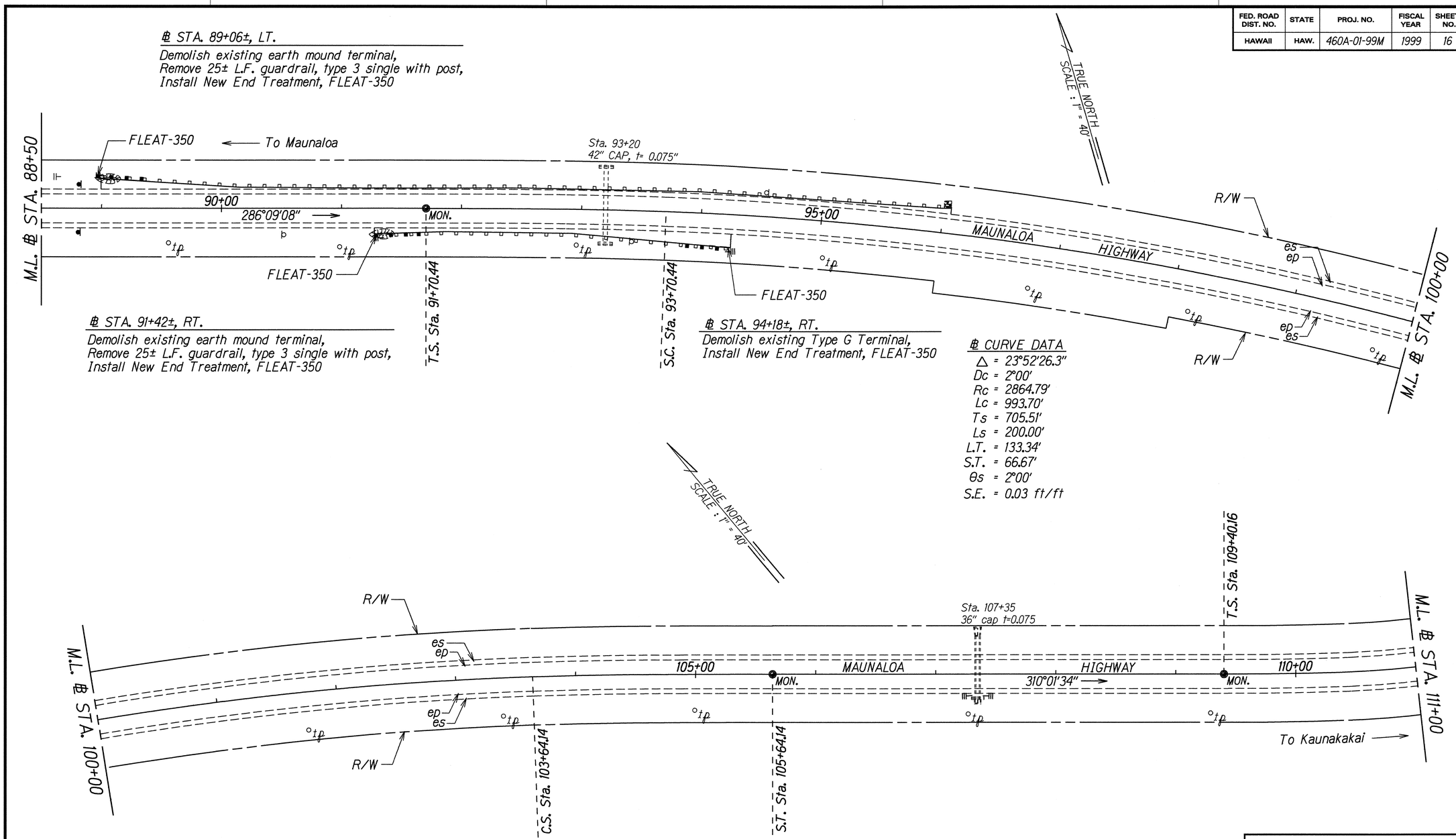
ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 4 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	16	41



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 5/98
	DRAWN BY SO	
NOTE BOOK	TRACED BY	
	DESIGNED BY TM	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

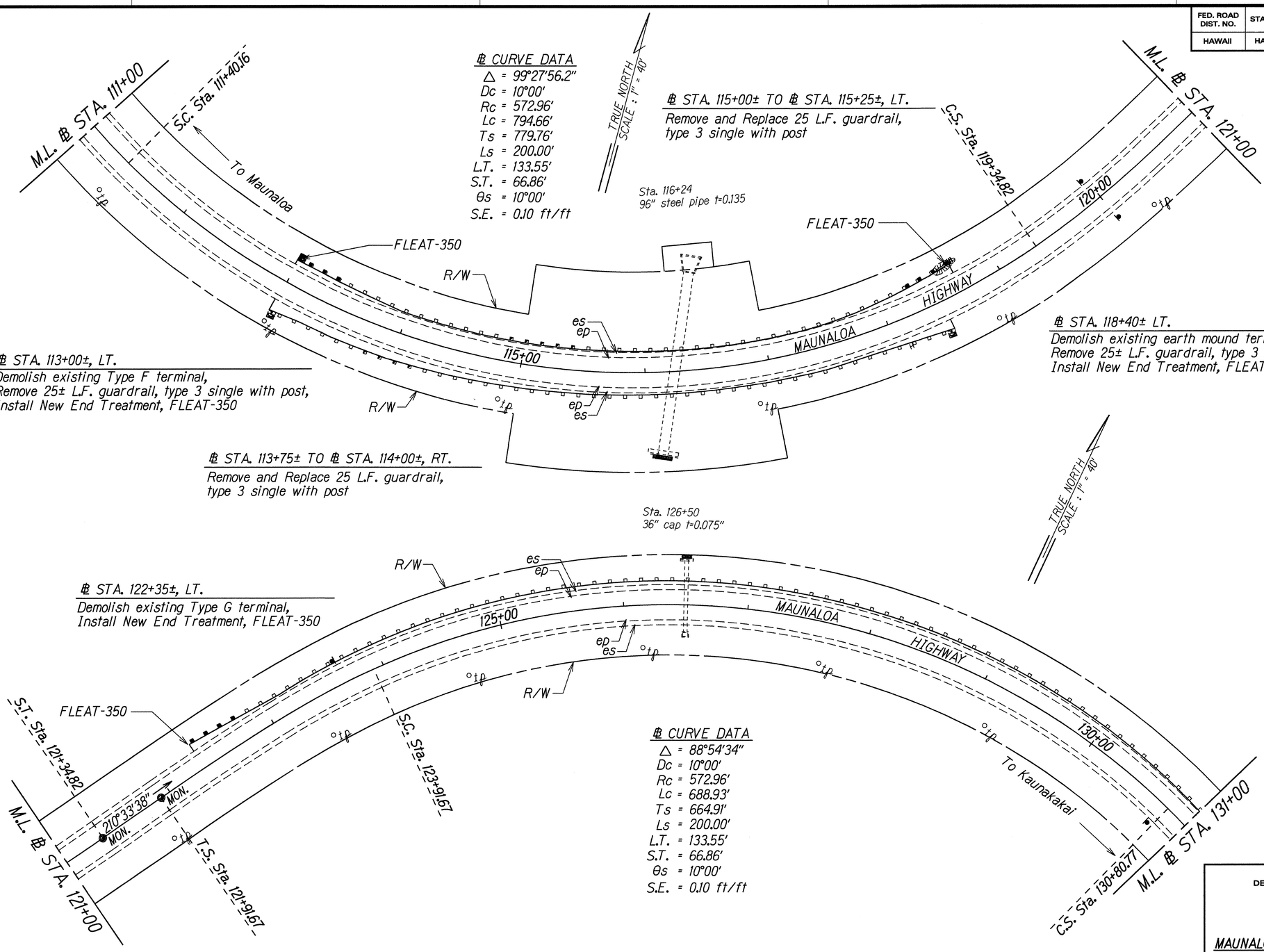
ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 5 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	17	41



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY JC	5/98
NOTE BOOK	TRACED BY	
	DESIGNED BY TM	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

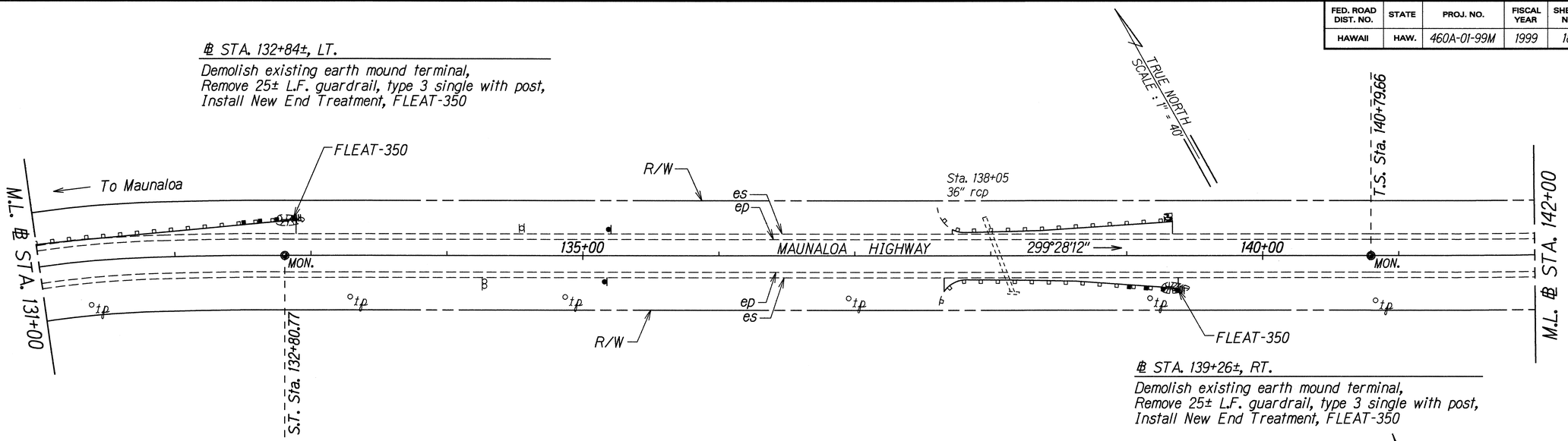
Scale: 1" = 40' Date: January, 1999

SHEET No. 6 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	18	41

℄ STA. 132+84±, LT.

Demolish existing earth mound terminal,
Remove 25± L.F. guardrail, type 3 single with post,
Install New End Treatment, FLEAT-350



℄ STA. 139+26±, RT.

Demolish existing earth mound terminal,
Remove 25± L.F. guardrail, type 3 single with post,
Install New End Treatment, FLEAT-350

℄ STA. 145+30±, LT.

Demolish existing Type G terminal,
Install New End Treatment, FLEAT-350

℄ CURVE DATA

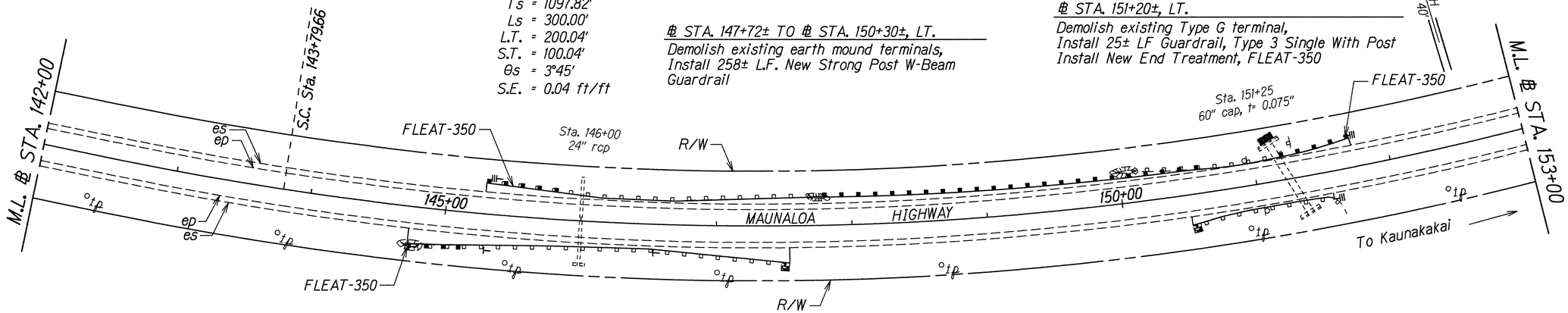
Δ = 44°54'30"
Dc = 2°30'
Rc = 2291.83'
Lc = 1496.33'
Ts = 1097.82'
Ls = 300.00'
L.T. = 200.04'
S.T. = 100.04'
θs = 3°45'
S.E. = 0.04 ft/ft

℄ STA. 147+72± TO ℄ STA. 150+30±, LT.

Demolish existing earth mound terminals,
Install 258± L.F. New Strong Post W-Beam
Guardrail

℄ STA. 151+20±, LT.

Demolish existing Type G terminal,
Install 25± LF Guardrail, Type 3 Single With Post
Install New End Treatment, FLEAT-350



℄ STA. 144+80±, RT.

Demolish existing Earth Mound Terminal,
Remove 25± LF guardrail, type 3 single with post
Install New End Treatment, FLEAT-350

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 6/98
	DRAFT BY JC	
	TRACED BY	
NOTE BOOK	DESIGNED BY TM	
160Fn. 7e1dy	QUANTITIES BY	
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

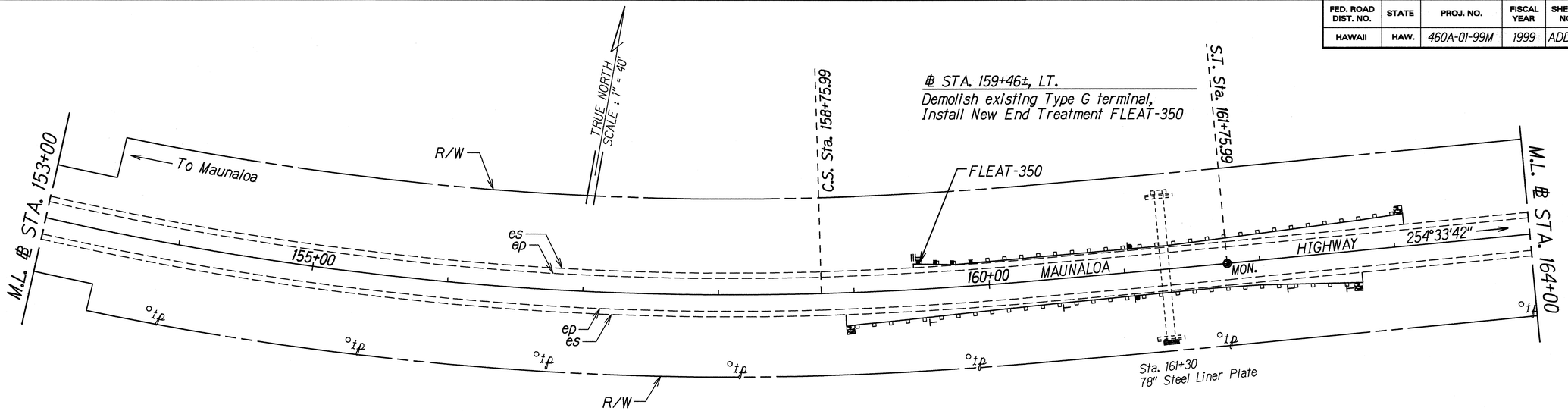
ROADWAY PLAN

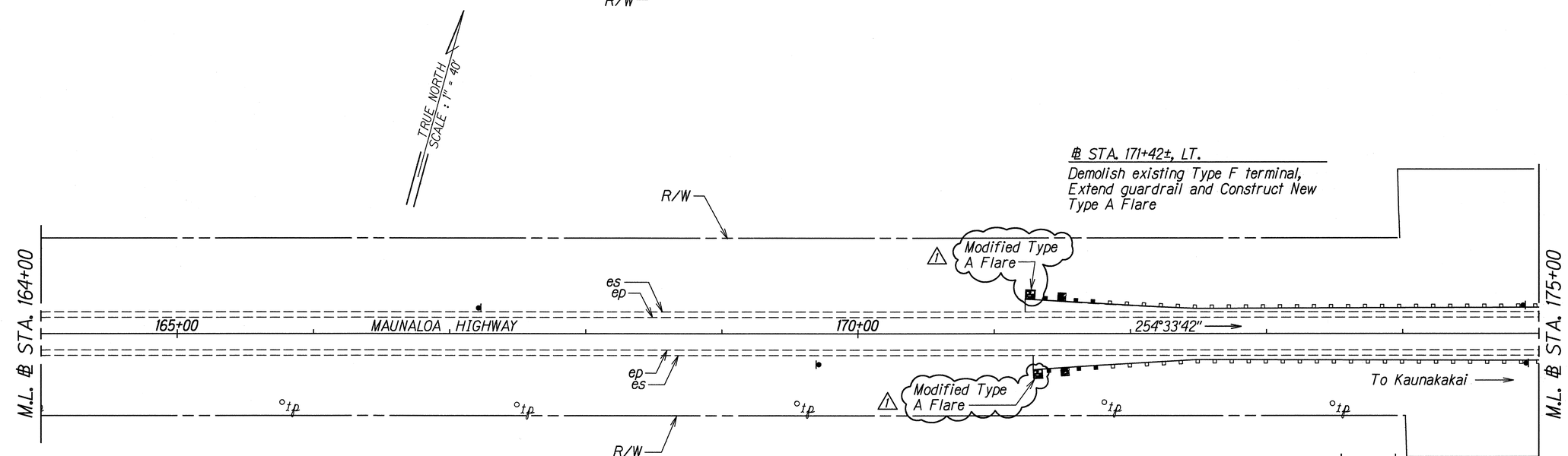
MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 7 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	ADD.19	41





DATE	REVISION
6-2-99	Revised End Treatment Terminal.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

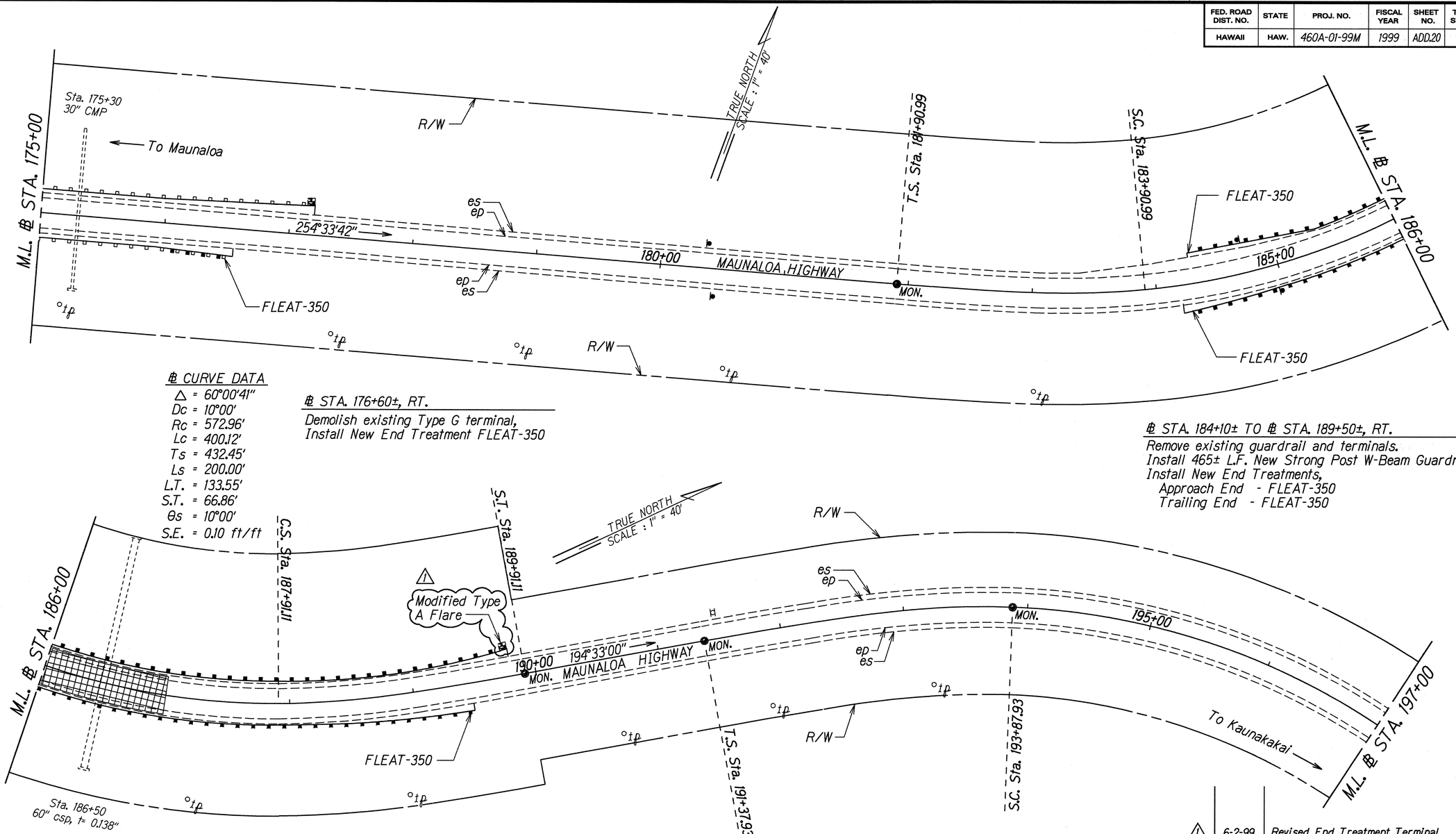
Scale: 1" = 40' Date: January, 1999

SHEET No. 8 OF 14 SHEETS

ADD.19

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 6/98
	DRAWN BY JG	
	TRACED BY	
NOTE BOOK login: teddy	TRACED BY TM	
	DESIGNED BY	
N:\maunalo.dgn	CHECKED BY	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	ADD.20	41



℄ CURVE DATA

△	= 60°00'41"
Dc	= 10°00'
Rc	= 572.96'
Lc	= 400.12'
Ts	= 432.45'
Ls	= 200.00'
L.T.	= 133.55'
S.T.	= 66.86'
θs	= 10°00'
S.E.	= 0.10 ft/ft

℄ STA. 176+60±, RT.

Demolish existing Type G terminal,
Install New End Treatment FLEAT-350

℄ STA. 184+10± TO ℄ STA. 189+50±, RT.

Remove existing guardrail and terminals.
Install 465± L.F. New Strong Post W-Beam Guardrail.
Install New End Treatments,
Approach End - FLEAT-350
Trailing End - FLEAT-350

℄ STA. 184+10± TO ℄ STA. 189+30± O/S 25'±, LT.

Remove existing guardrail & terminals, Demolish existing dike,
Pave shoulder and Construct New Bituminous Curb, Type 6
See Plan Sheet No. 4 for details.
Install 445± L.F. New Strong Post W-Beam Guardrail.
Install New End Treatments,
Approach End - Type A Flare
Trailing End - FLEAT 350

DATE	REVISION
6-2-99	Revised End Treatment Terminal.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

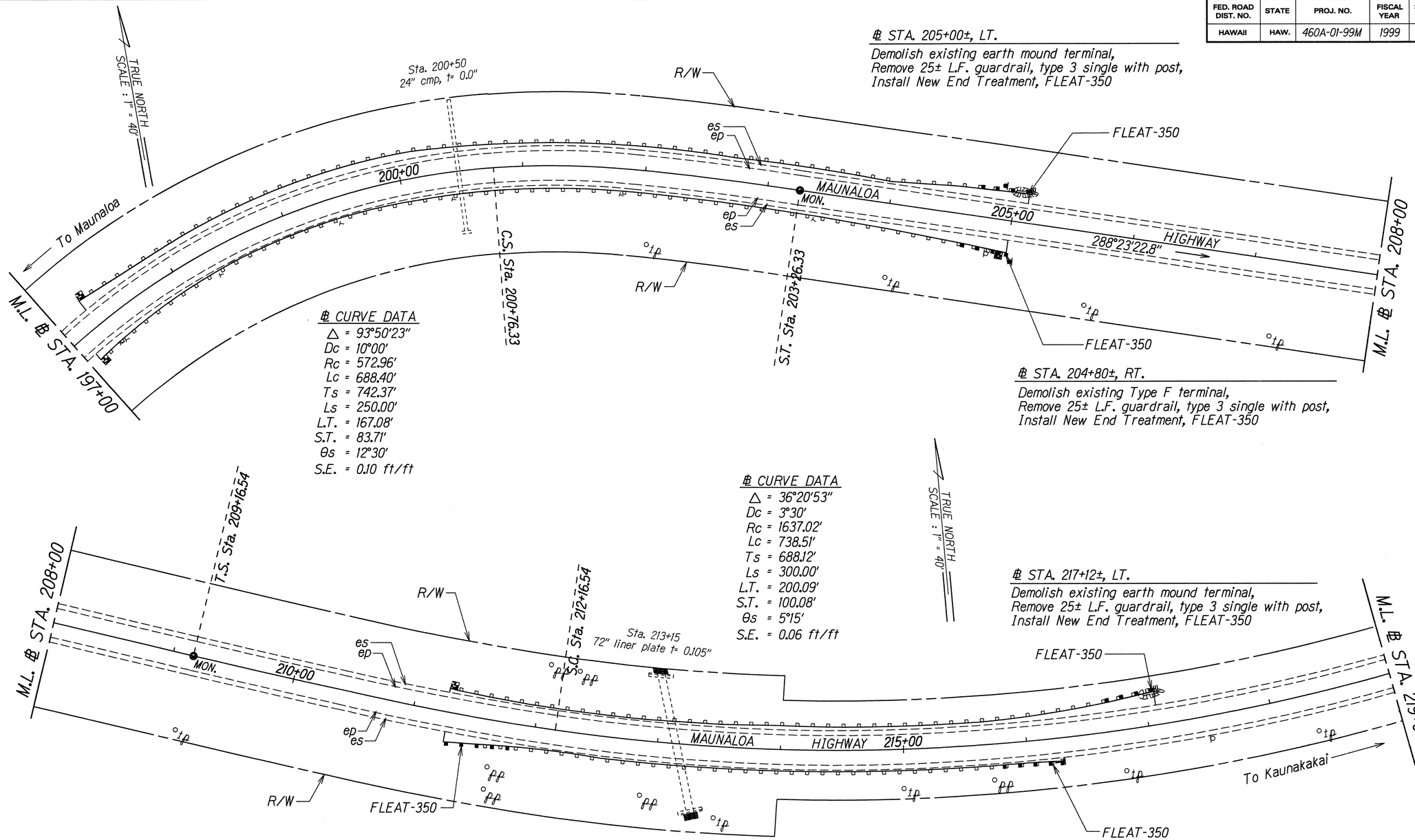
Scale: 1" = 40' Date: January, 1999

SHEET No. 9 OF 14 SHEETS

ADD.20

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 5/98
	DRAWN BY JG	
NOTE BOOK login: teddy /pw:umpsdsfgh	TRACED BY	
	DESIGNED BY TM	
	QUANTITIES BY	
	CHECKED BY	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	21	41



ORIGINAL PLAN	SURVEY PLOTTED BY		DATE 6/98
	DRAWN BY JC		
NOTE BOOK	TRACED BY	DESIGNED BY TM	
Hgh. Hwy. Hawaii		QUANTITIES BY	
		CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

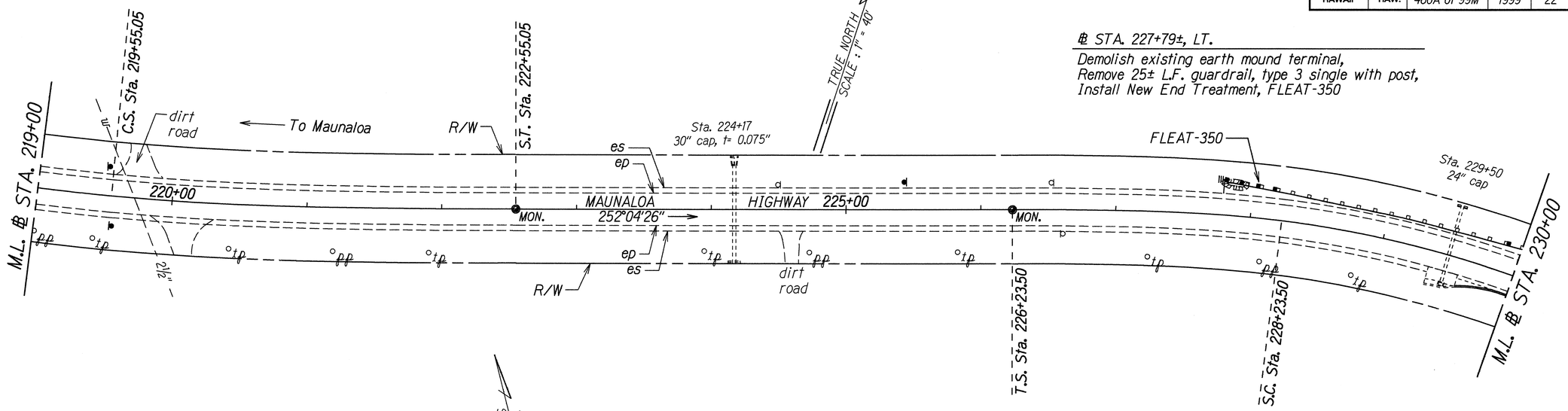
ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 10 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	22	41

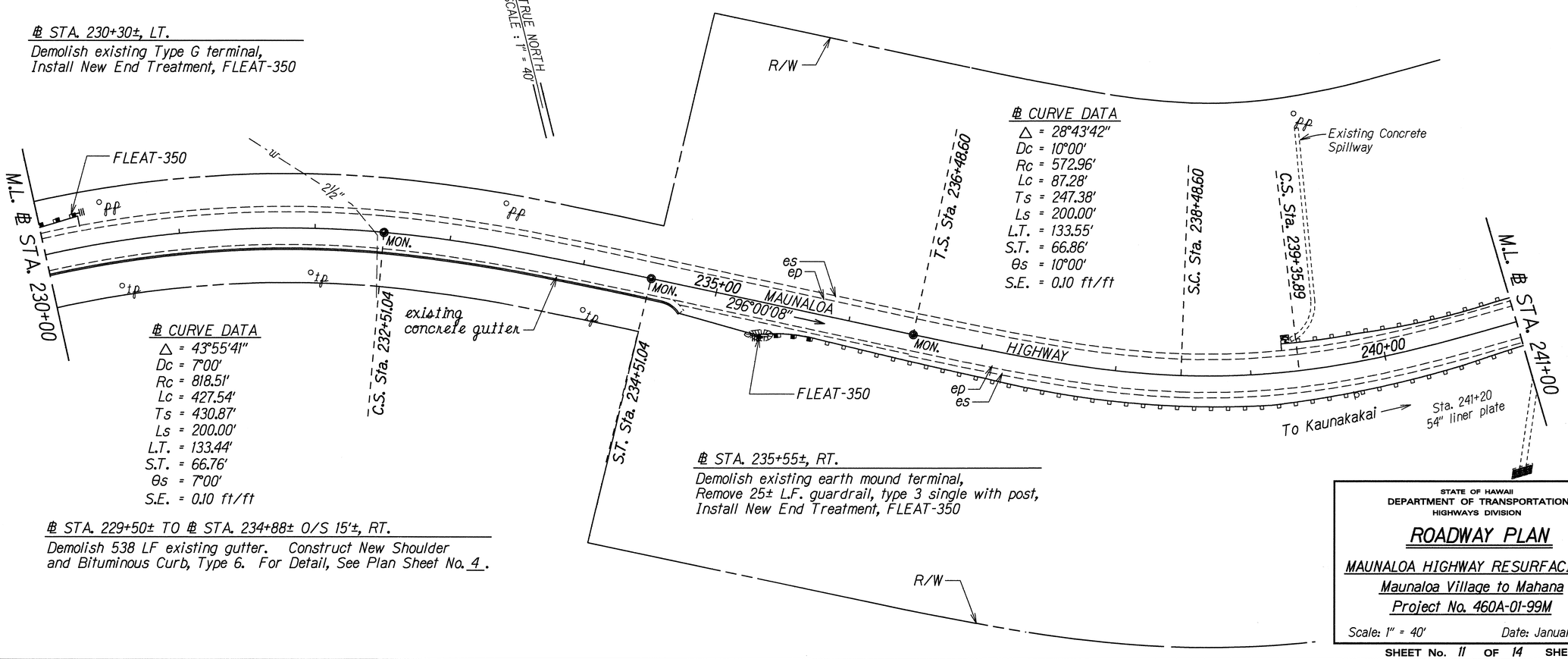


⌖ STA. 227+79±, LT.

Demolish existing earth mound terminal,
Remove 25± L.F. guardrail, type 3 single with post,
Install New End Treatment, FLEAT-350

⌖ STA. 230+30±, LT.

Demolish existing Type G terminal,
Install New End Treatment, FLEAT-350



⌖ CURVE DATA

△	= 43°55'41"
Dc	= 7°00'
Rc	= 818.51'
Lc	= 427.54'
Ts	= 430.87'
Ls	= 200.00'
L.T.	= 133.44'
S.T.	= 66.76'
θs	= 7°00'
S.E.	= 0.10 ft/ft

⌖ CURVE DATA

△	= 28°43'42"
Dc	= 10°00'
Rc	= 572.96'
Lc	= 87.28'
Ts	= 247.38'
Ls	= 200.00'
L.T.	= 133.55'
S.T.	= 66.86'
θs	= 10°00'
S.E.	= 0.10 ft/ft

⌖ STA. 229+50± TO ⌖ STA. 234+88± O/S 15'±, RT.

Demolish 538 LF existing gutter. Construct New Shoulder and Bituminous Curb, Type 6. For Detail, See Plan Sheet No. 4.

⌖ STA. 235+55±, RT.

Demolish existing earth mound terminal,
Remove 25± L.F. guardrail, type 3 single with post,
Install New End Treatment, FLEAT-350

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 6/98
	DRAWN BY JC	
	TRACED BY	
NOTE BOOK	DESIGNED BY TM	
Inglis Reddy Naumann/Hodge	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

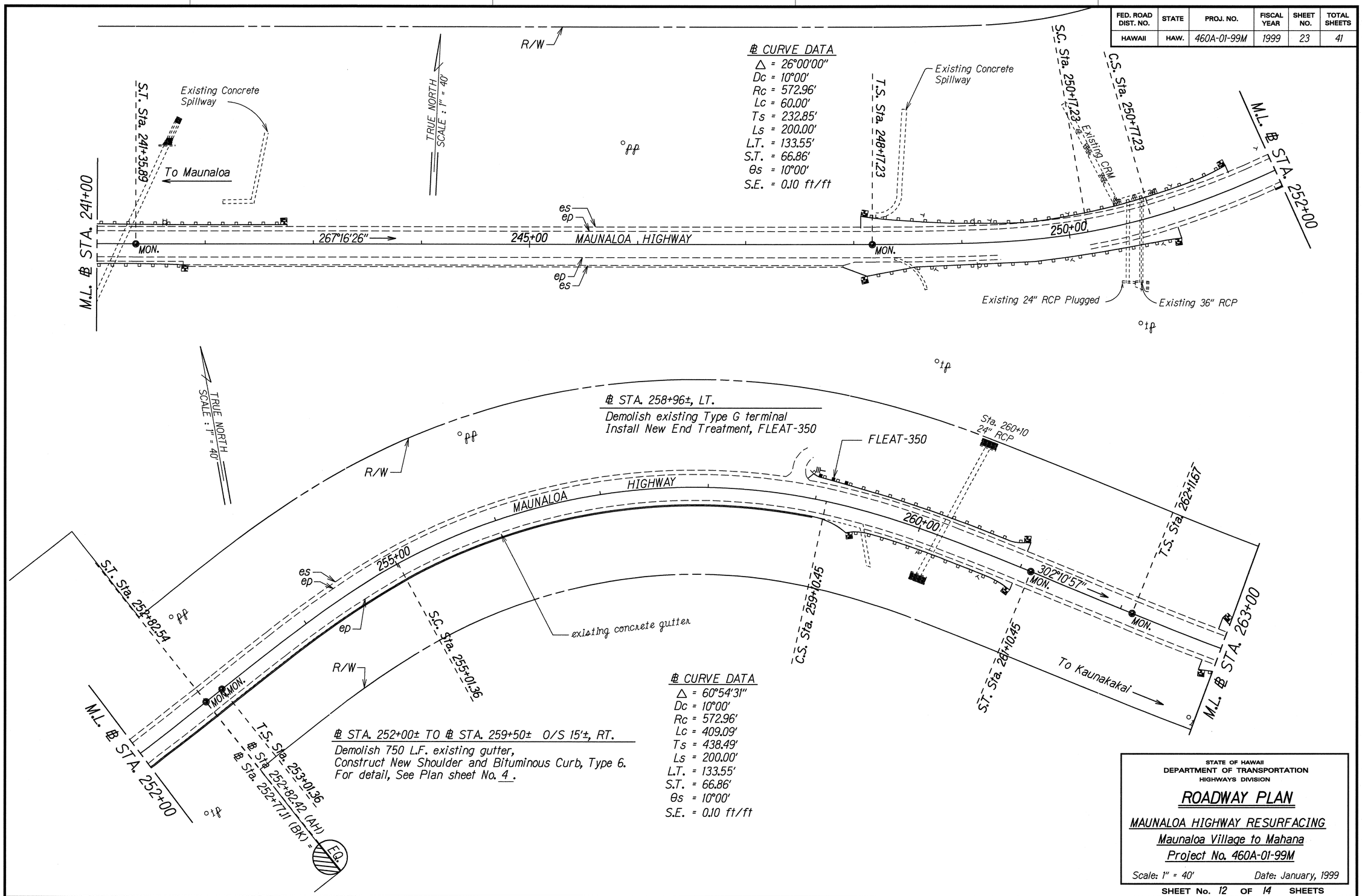
ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 11 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	23	41



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY JG	6/98
NOTE BOOK (login: tedoy) (Sgbuilmp12.dgn)	TRACED BY	
	DESIGNED BY TM	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 12 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	ADD.24	41

℄ STA. 263+80± TO ℄ STA. 267+60± O/S 15'±, LT.

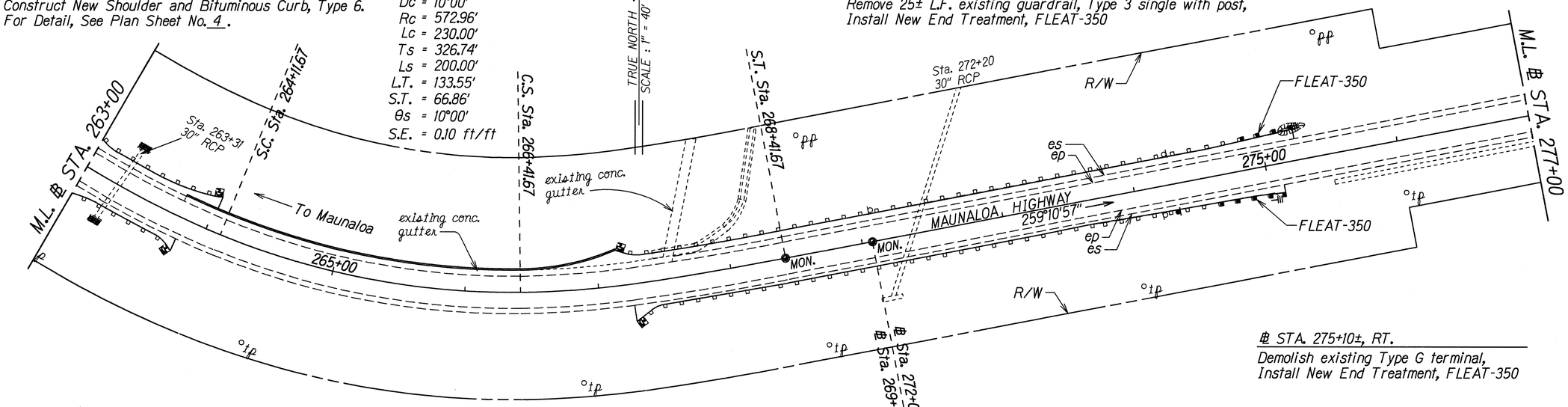
Demolish 380 L.F. existing gutter
Construct New Shoulder and Bituminous Curb, Type 6.
For Detail, See Plan Sheet No. 4 .

℄ CURVE DATA

Δ = 43°00'00"
Dc = 10°00'
Rc = 572.96'
Lc = 230.00'
Ts = 326.74'
Ls = 200.00'
L.T. = 133.55'
S.T. = 66.86'
θs = 10°00'
S.E. = 0.10 ft/ft

℄ STA. 275+10±, LT.

Demolish existing earth mound terminal,
Remove 25± L.F. existing guardrail, Type 3 single with post,
Install New End Treatment, FLEAT-350



℄ STA. 275+10±, RT.

Demolish existing Type G terminal,
Install New End Treatment, FLEAT-350

℄ STA. 283+80±, LT.

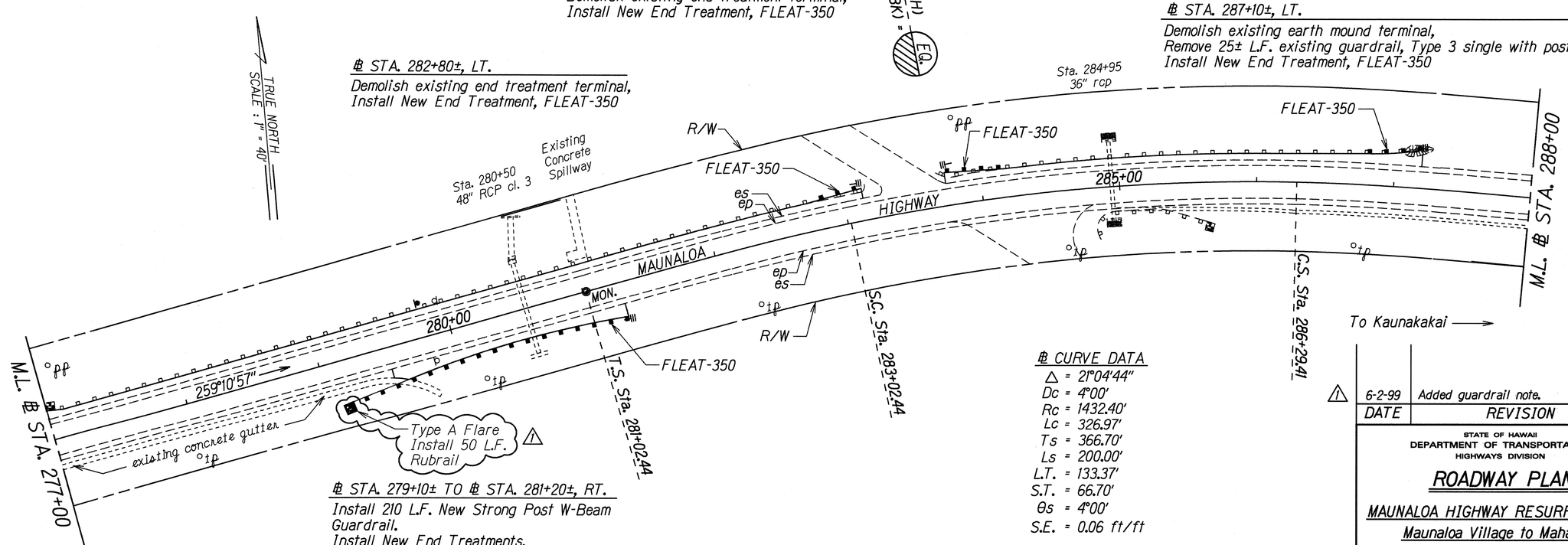
Demolish existing end treatment terminal,
Install New End Treatment, FLEAT-350

℄ STA. 287+10±, LT.

Demolish existing earth mound terminal,
Remove 25± L.F. existing guardrail, Type 3 single with post,
Install New End Treatment, FLEAT-350

℄ STA. 282+80±, LT.

Demolish existing end treatment terminal,
Install New End Treatment, FLEAT-350



℄ STA. 279+10± TO ℄ STA. 281+20±, RT.

Install 210 L.F. New Strong Post W-Beam Guardrail.
Install New End Treatments,
Approach End - Type A Flare
Trailing End - FLEAT-350

℄ CURVE DATA

Δ = 21°04'44"
Dc = 4°00'
Rc = 1432.40'
Lc = 326.97'
Ts = 366.70'
Ls = 200.00'
L.T. = 133.37'
S.T. = 66.70'
θs = 4°00'
S.E. = 0.06 ft/ft

DATE	REVISION
6-2-99	Added guardrail note.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 13 OF 14 SHEETS

ADD.24

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE 6/98 | NOTE BOOK | NOTE BOOK NO. | CHECKED BY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	460A-01-99M	1999	ADD.25	41

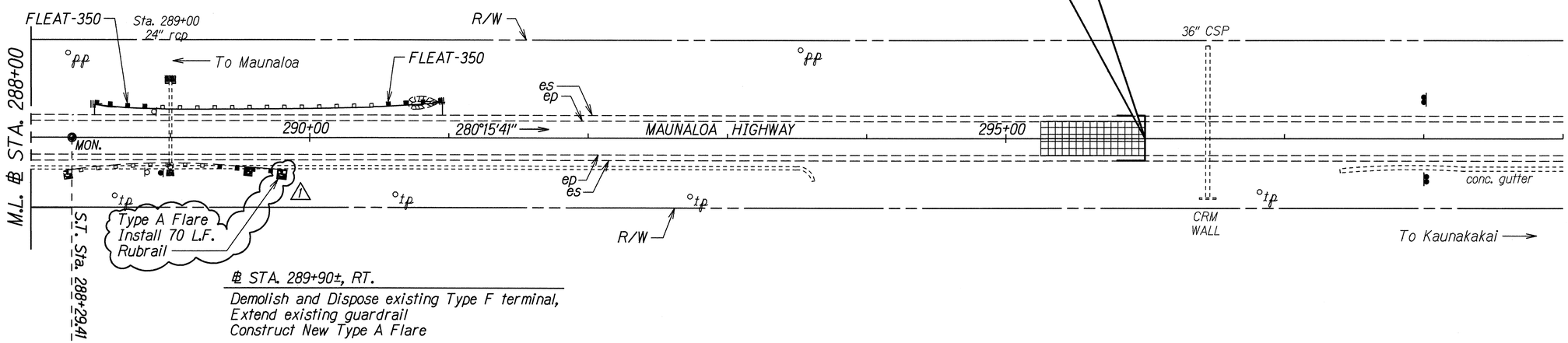
℄ STA. 288+40±, LT.

Demolish existing Type G terminal
Install New End Treatment, FLEAT-350

℄ STA. 290+80±, LT.

Demolish existing earth mound terminal
Remove 25± L.F. guardrail, type 3 single with post,
Install New End Treatment, FLEAT-350.

END PROJECT
Project No. 460A-01-99M
℄ Sta. 296+00



TRUE NORTH
SCALE : 1" = 40'

℄ STA. 289+90±, RT.

Demolish and Dispose existing Type F terminal,
Extend existing guardrail
Construct New Type A Flare

DATE	REVISION
6-2-99	Added guardrail note.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

MAUNALOA HIGHWAY RESURFACING
Maunaloa Village to Mahana
Project No. 460A-01-99M

Scale: 1" = 40' Date: January, 1999

SHEET No. 14 OF 14 SHEETS

ADD.25

ORIGINAL PLAN
NOTE BOOK logfile: hddly
Scaumpl4.dgn
SURVEY PLOTTED BY
DRAWN BY JC
TRACED BY
DESIGNED BY JM
QUANTITIES BY
CHECKED BY
DATE 6/99