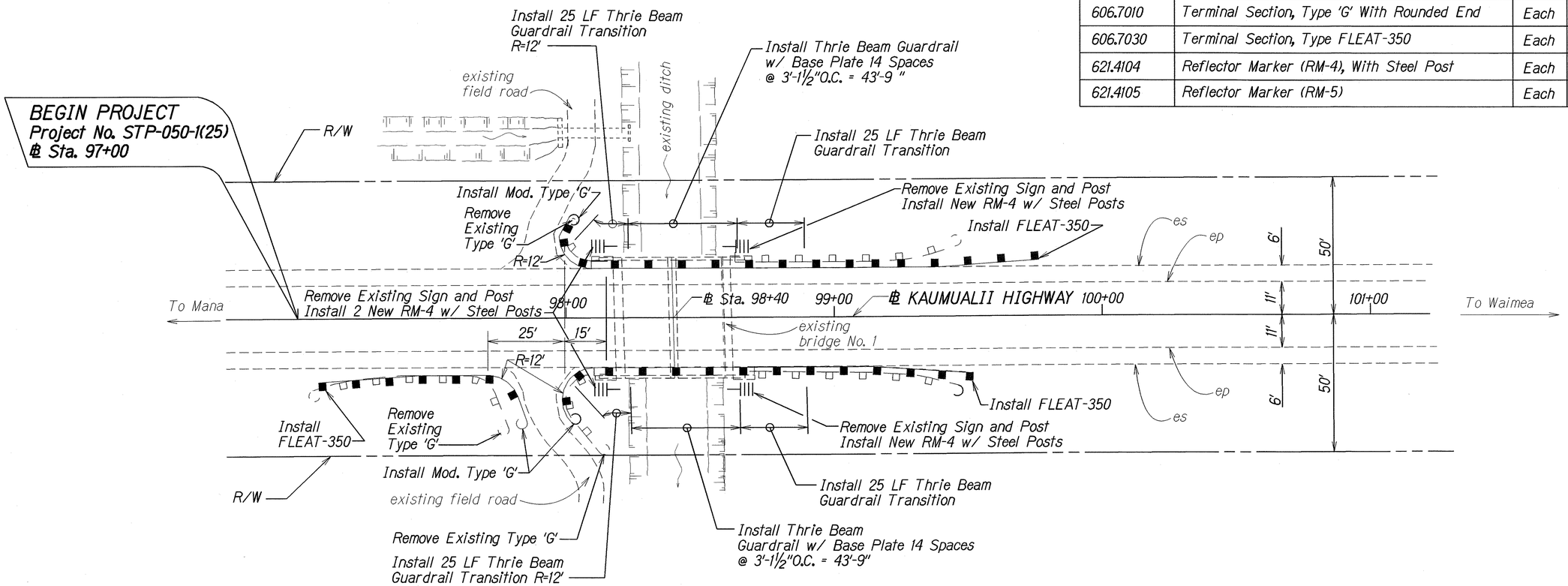
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	7	30

TRUE NORTH
SCALE : 1" = 20'

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0412	Removal of Type 'G' Terminal End	Each	3
202.0430	Removal of Guardrail and Steel Posts	L.F.	325
507.0100	Steel Bridge Railing (Bike Railing)	L.F.	112.5
606.3130	Guardrail, Strong Post with W-Beam	L.F.	150
606.5000	Guardrail, Thrie-Beam (Transition to Bridge Rail)	L.F.	100
606.5002	Guardrail, Thrie Beam With Base Plate	L.F.	87.5
606.7010	Terminal Section, Type 'G' With Rounded End	Each	3
606.7030	Terminal Section, Type FLEAT-350	Each	3
621.4104	Reflector Marker (RM-4), With Steel Post	Each	4
621.4105	Reflector Marker (RM-5)	Each	6

℄ Sta. 98+16± Lt.
Remove 25 LF Guardrail and Steel Posts
Including Rubrail and Bridge Terminal Connector
Install 12.5 LF Guardrail

℄ Sta. 98+64± to ℄ Sta. 99+51.5± Lt.
Remove 87.5 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T.
and Bridge Terminal Connector
Install 50 LF Guardrail



℄ Sta. 97+14± to ℄ Sta. 97+89± Rt.
Remove 87.5 LF Guardrail and Steel Posts
Including M.E.L.T. Terminal End
Install 50 LF Guardrail

℄ Sta. 98+16± Rt.
Remove 37.5 LF Guardrail and Steel Posts
Including Rubrail, and Bridge Terminal Connection
Install 12.5 LF Guardrail

℄ Sta. 98+64± to ℄ Sta. 99+51.5± Rt.
Remove 87.5 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T. and Bridge Terminal Connection
Install 25 LF Guardrail

PLAN - BRIDGE NO. 1 (M.P. 31.60±)

1" = 20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE July 2002
	DRAWN BY J. Ke	
NOTE BOOK	TRACED BY	
	DESIGNED BY J. Tintucioi	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)

Scale: 1"=20' Date: July 2002

SHEET No. 1 OF 13 SHEETS

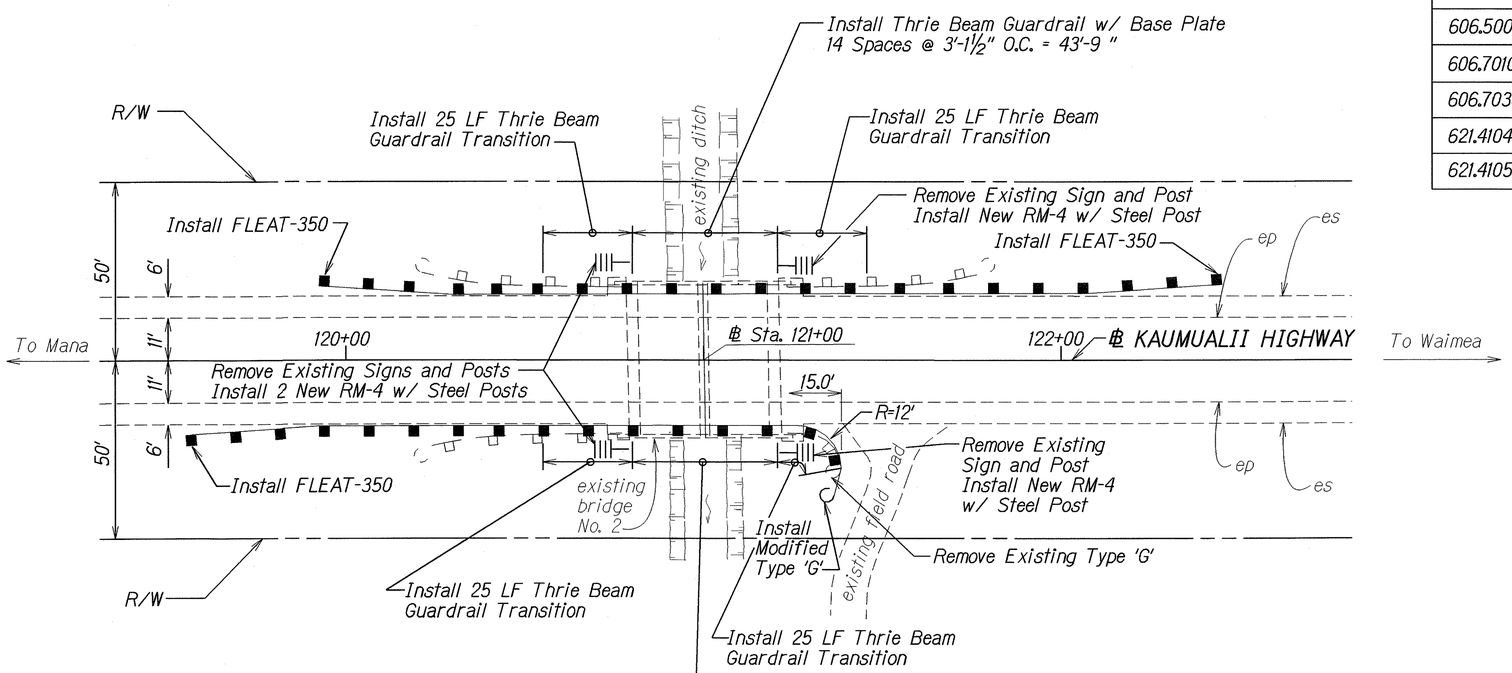
DDS-Highway Design Section

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	8	30

TRUE NORTH
SCALE : 1" = 20'

℄ Sta. 119+99± to ℄ Sta. 120+74± Lt.
Remove 75 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T., Terminal End
and Bridge Terminal Connector
Install 25 LF Guardrail

℄ Sta. 121+26± to ℄ Sta. 122+01 Lt.
Remove 75 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T., Terminal End
and Bridge Terminal Connector
Install 62.5 LF Guardrail



℄ Sta. 119+99± to ℄ Sta. 120+74± Rt.
Remove 75 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T., Terminal End
and Bridge Terminal Connector
Install 62.5 LF Guardrail

℄ Sta. 121+26± Rt.
Remove 25 LF Guardrail and Steel Posts
Including Rubrail and Bridge
Terminal Connector
Install 12.5 LF Guardrail

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0412	Removal of Type 'G' Terminal End	Each	1
202.0430	Removal of Guardrail and Steel Posts	L.F.	250
507.0100	Steel Bridge Railing (Bike Railing)	L.F.	112.5
606.3130	Guardrail, Strong Post with W-Beam	L.F.	162.5
606.5000	Guardrail, Thrie-Beam (Transition to Bridge Rail)	L.F.	100
606.5002	Guardrail, Thrie Beam With Base Plate	L.F.	87.5
606.7010	Terminal Section, Type 'G' With Rounded End	Each	1
606.7030	Terminal Section, Type FLEAT-350	Each	3
621.4104	Reflector Marker (RM-4), With Steel Post	Each	4
621.4105	Reflector Marker (RM-5)	Each	4

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE July 2002
	DRAWN BY J. Lee	
	TRACED BY J. Tyrtyci	
NOTE BOOK	DESIGNED BY	
REFERENCE	QUANTITIES BY	
No. Skmk0202dgn	CHECKED BY	

PLAN - BRIDGE NO. 2 (M.P. 31.17±)

1" = 20'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)

Scale: 1"=20' Date: July 2002

SHEET No. 2 OF 13 SHEETS

D/O-Highway Design Section

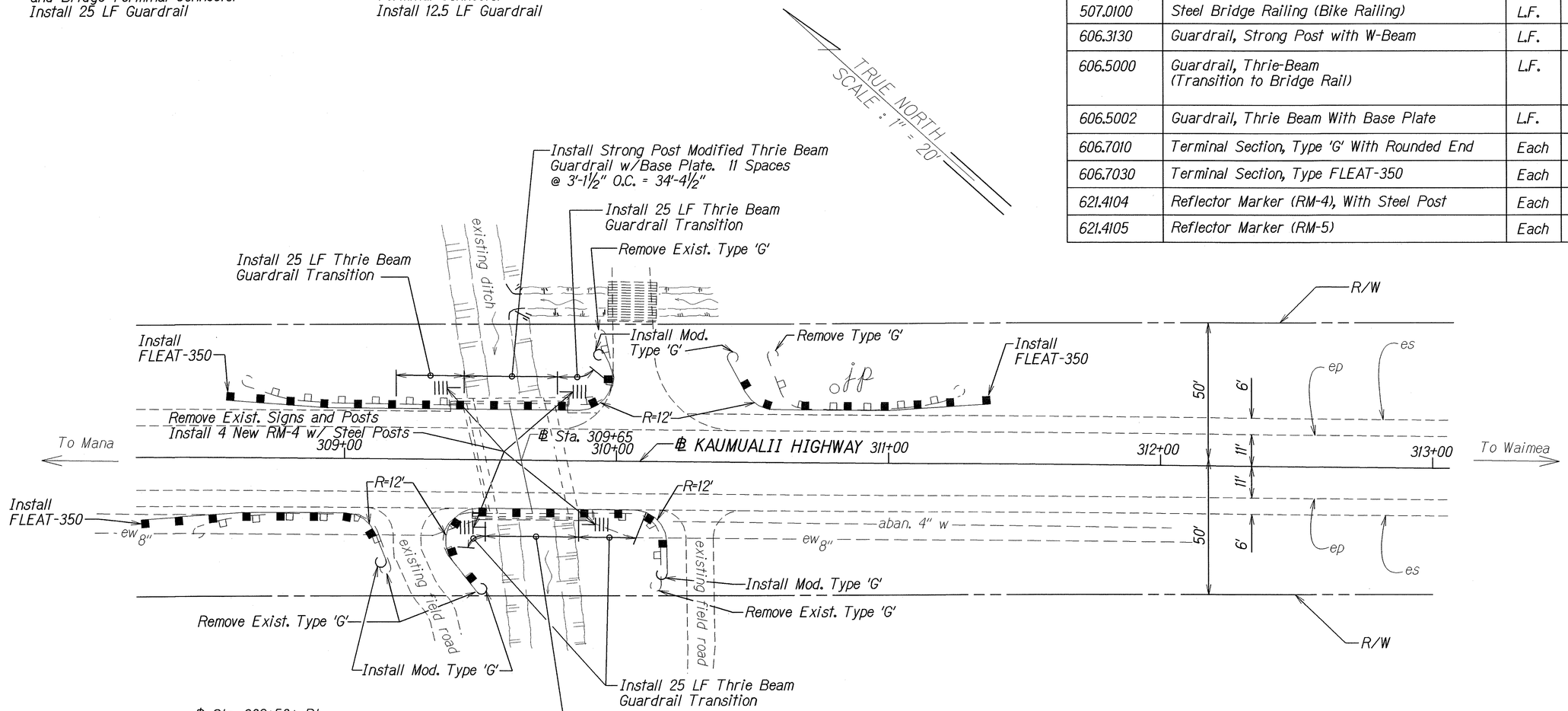
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	9	30

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0412	Removal of Type 'G' Terminal End	Each	5
202.0430	Removal of Guardrail and Steel Posts	L.F.	362.5
507.0100	Steel Bridge Railing (Bike Railing)	L.F.	94
606.3130	Guardrail, Strong Post with W-Beam	L.F.	212.5
606.5000	Guardrail, Thrie-Beam (Transition to Bridge Rail)	L.F.	100
606.5002	Guardrail, Thrie Beam With Base Plate	L.F.	69
606.7010	Terminal Section, Type 'G' With Rounded End	Each	5
606.7030	Terminal Section, Type FLEAT-350	Each	3
621.4104	Reflector Marker (RM-4), With Steel Post	Each	4
621.4105	Reflector Marker (RM-5)	Each	6

℄ Sta. 308+65± to ℄ Sta. 309+40± Lt.
Remove 75 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T. Terminal End
and Bridge Terminal Connector
Install 25 LF Guardrail

℄ Sta. 309+85± Lt.
Remove 37.5 LF Guardrail and Steel Posts
Including Rubrail and Bridge
Terminal Connector
Install 12.5 LF Guardrail

℄ Sta. 310+55± to ℄ Sta. 311+30± Lt.
Remove 87.5 LF Guardrail and Steel Posts
Including M.E.L.T. Terminal End
Install 75 LF Guardrail



℄ Sta. 309+50± Rt.
Remove 37.5 LF Guardrail and Steel Posts
Including Rubrail and Bridge Terminal Connector
Install 25 LF Guardrail

℄ Sta. 308+40± to ℄ Sta. 309+10± Rt.
Remove 87.5 LF Guardrail and Steel Posts
Including M.E.L.T. Terminal End
Install 50 LF Guardrail

℄ Sta. 309+90± to ℄ Sta. 310+10± Rt.
Remove 37.5 LF Guardrail and Steel Posts Including
Rubrail and Bridge Terminal Connector
Install 25 LF Guardrail

PLAN- BRIDGE NO. 3 (M.P. 27.59±)
1" = 20'

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY J. Ko
TRACED BY
DESIGNED BY J. Yamada
QUANTITIES BY
CHECKED BY
DATE July 2002
NOTE BOOK
DD5-Highway Design Section

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)

Scale: 1"=20' Date: July 2002

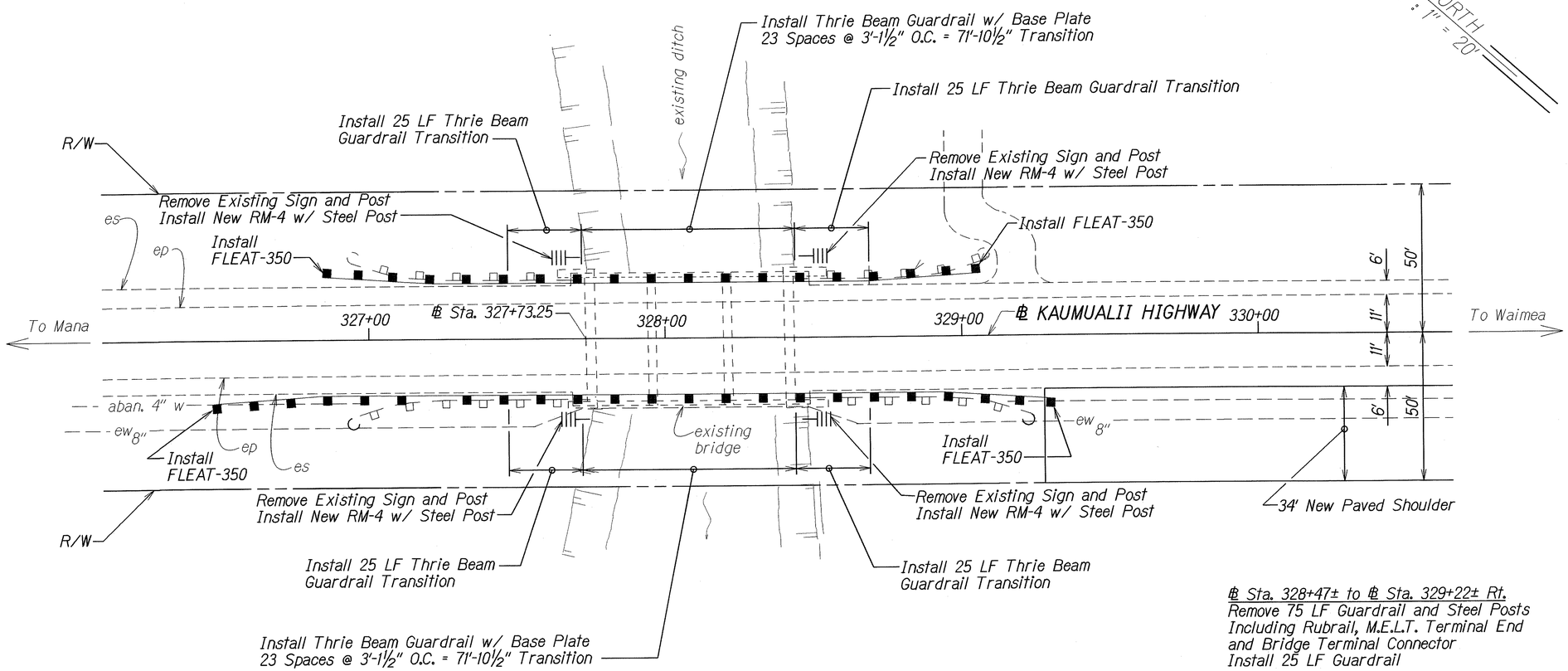
SHEET No. 3 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	10	30

℄ Sta. 326+93± to ℄ Sta. 327+68± Lt.
Remove 75 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T. Terminal End
and Bridge Terminal Connector
Install 25 LF Guardrail

℄ Sta. 328+47± to ℄ Sta. 329+22± Lt.
Remove 75 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T. Terminal End
and Bridge Terminal Connector

TRUE NORTH
SCALE : 1" = 20'



℄ Sta. 328+47± to ℄ Sta. 329+22± Rt.
Remove 75 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T. Terminal End
and Bridge Terminal Connector
Install 25 LF Guardrail

℄ Sta. 326+93± to ℄ Sta. 327+68± Rt.
Remove 75 LF Guardrail and Steel Posts
Including Rubrail, M.E.L.T. Terminal End
and Bridge Terminal Connector
Install 62.5 LF Guardrail

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0430	Removal of Guardrail and Steel Posts	L.F.	300
507.0100	Steel Bridge Railing (Bike Railing)	L.F.	169
606.3130	Guardrail, Strong Post with W-Beam	L.F.	112.5
606.5000	Guardrail, Thrie-Beam (Transition to Bridge Rail)	L.F.	100
606.5002	Guardrail, Thrie Beam With Base Plate	L.F.	144
606.7030	Terminal Section, Type FLEAT-350	Each	4
621.4104	Reflector Marker (RM-4), With Steel Post	Each	4
621.4105	Reflector Marker (RM-5)	Each	4

PLAN - BRIDGE NO. 4 (M.P. 27.25±)
1" = 20'

ORIGINAL PLAN
SURVEY PLOTTED BY
DATA BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE July 2002
NOTE BOOK
Kaumualii Hwy
Gkmu/p04.dgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)
Scale: 1"=20' Date: July 2002

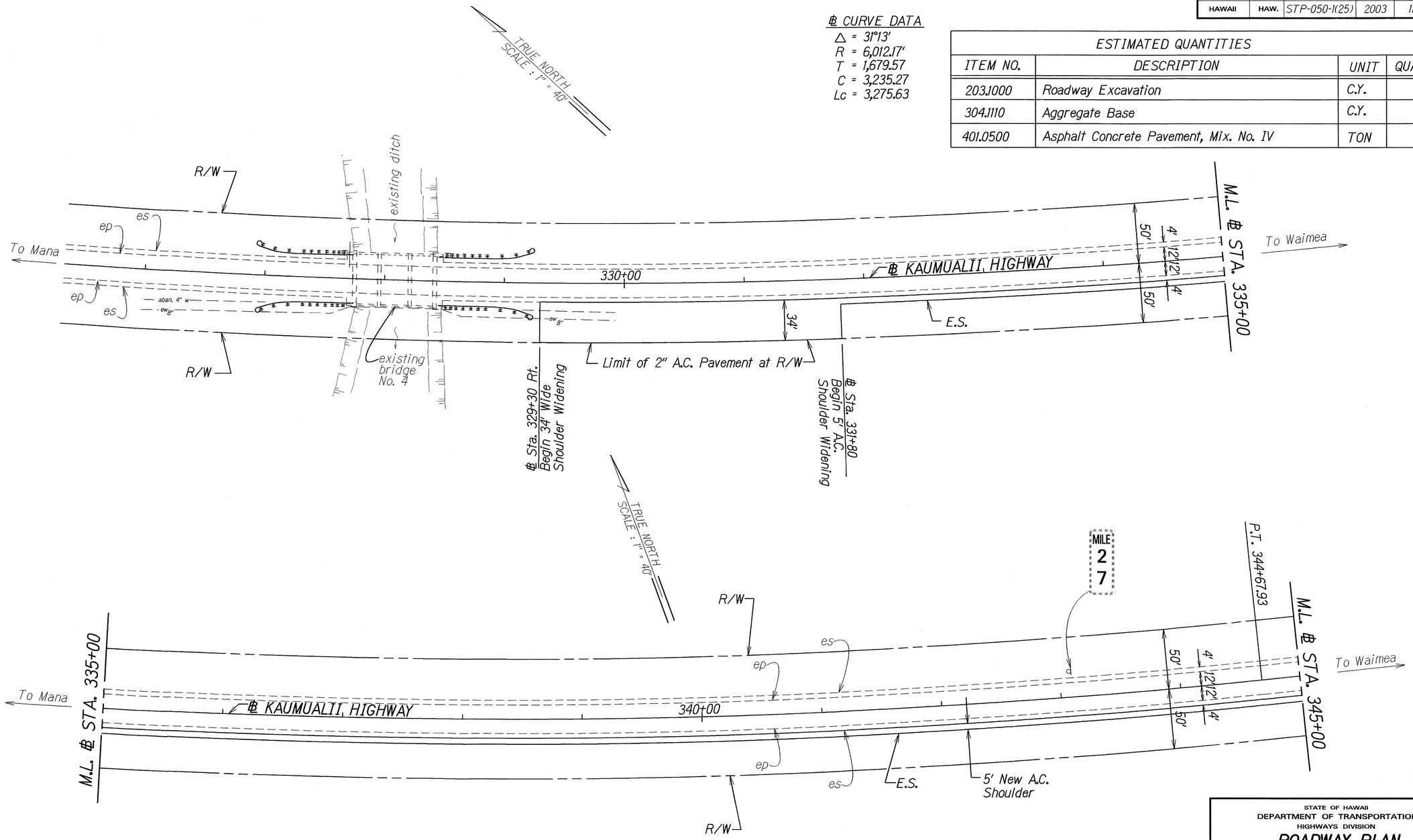
SHEET No. 4 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	11	30

℄ CURVE DATA
Δ = 31°13'
R = 6,012.17'
T = 1,679.57
C = 3,235.27
Lc = 3,275.63

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203.1000	Roadway Excavation	C.Y.	220
304.1110	Aggregate Base	C.Y.	125
401.0500	Asphalt Concrete Pavement, Mix. No. IV	TON	195



PLAN (M.P. 27.2 TO M.P. 26.9)
Scale: 1"=40'

SURVEY PLOTTED BY	
DRAWN BY	J. Ke
TRACED BY	
DESIGNED BY	J. Tachino
QUANTITIES BY	
CHECKED BY	
DATE	July 2002
ORIGINAL PLAN	
NOTE BOOK	162, 200
	SKmUkp05.dgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)
Scale: 1"=40' Date: July 2002

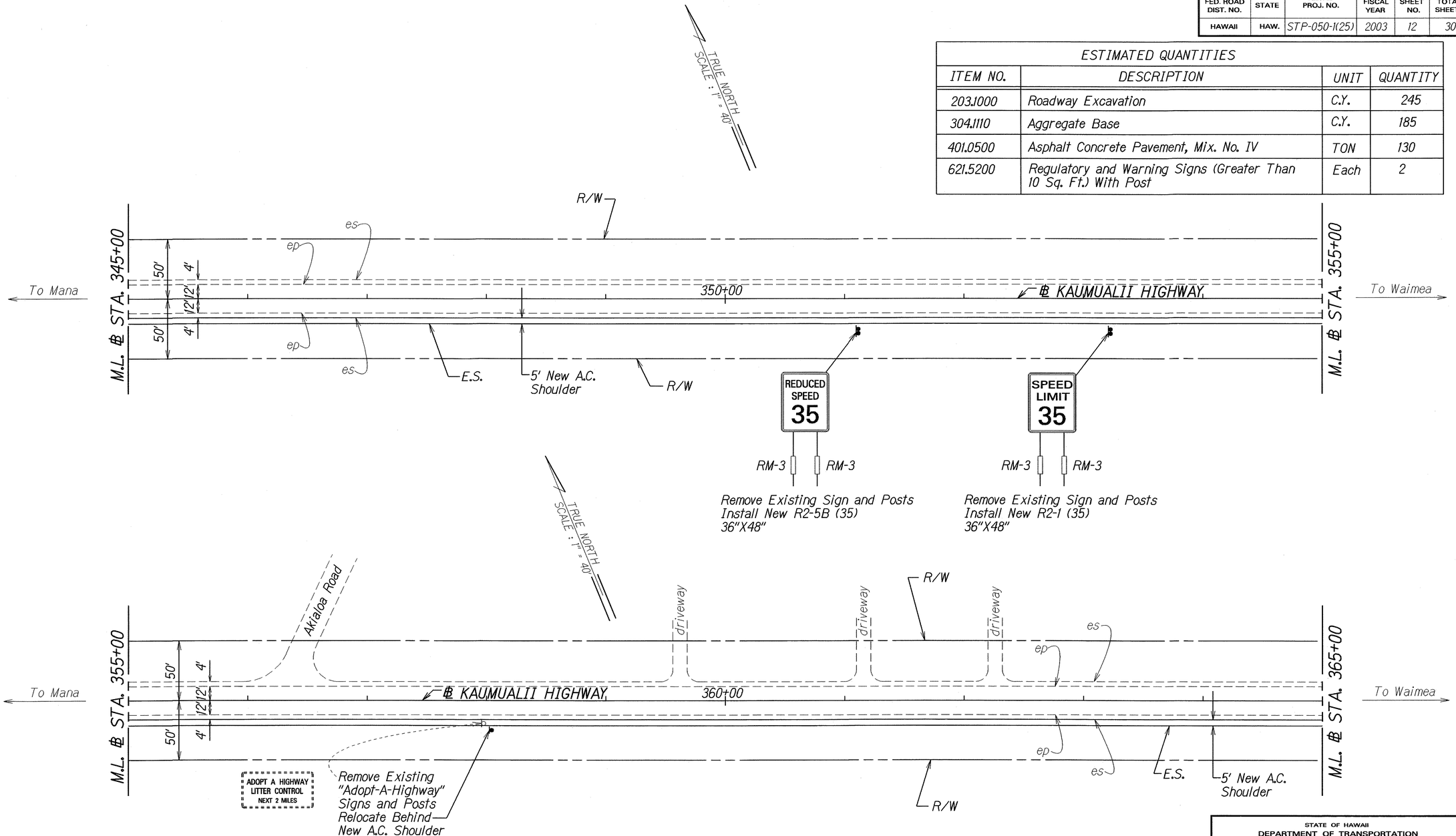
SHEET No. 5 OF 13 SHEETS

DDS-Highway Design Section

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	12	30

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203.1000	Roadway Excavation	C.Y.	245
304.1110	Aggregate Base	C.Y.	185
401.0500	Asphalt Concrete Pavement, Mix. No. IV	TON	130
621.5200	Regulatory and Warning Signs (Greater Than 10 Sq. Ft.) With Post	Each	2



PLAN (M.P. 26.9 to M.P. 26.55)
Scale: 1"=40'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY J.K.	July 2002
NOTE BOOK	TRACED BY	
No.	DESIGNED BY J. Tuituia	
dkmuk26.dgn	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)

Scale: 1"=40' Date: July 2002

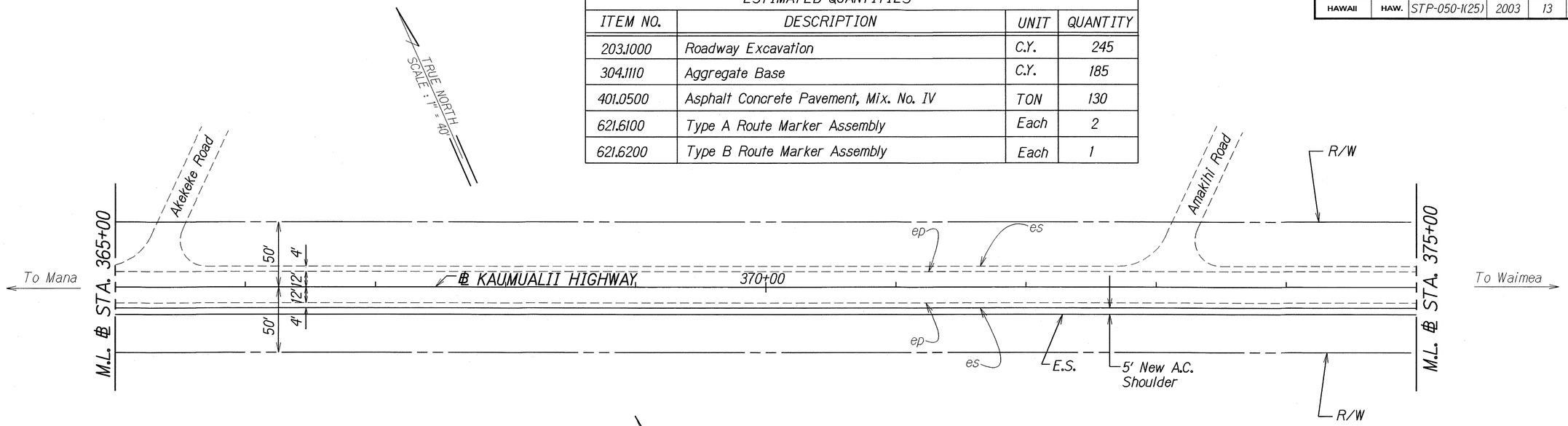
SHEET No. 6 OF 13 SHEETS

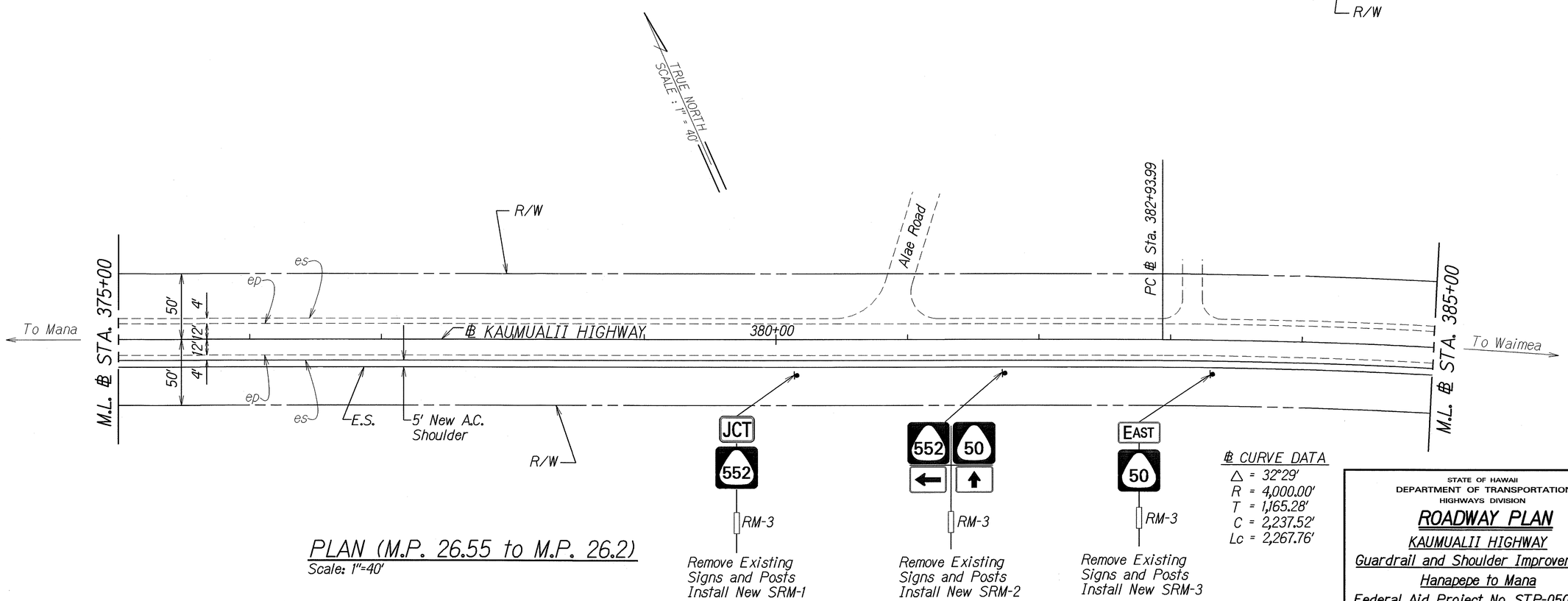
DD5-Highway Design Section

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	13	30

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203.1000	Roadway Excavation	C.Y.	245
304.1110	Aggregate Base	C.Y.	185
401.0500	Asphalt Concrete Pavement, Mix. No. IV	TON	130
621.6100	Type A Route Marker Assembly	Each	2
621.6200	Type B Route Marker Assembly	Each	1





℄ CURVE DATA

Δ = 32°29'
R = 4,000.00'
T = 1,165.28'
C = 2,237.52'
Lc = 2,267.76'

PLAN (M.P. 26.55 to M.P. 26.2)

Scale: 1"=40'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)

Scale: 1"=40' Date: July 2002

SHEET No. 7 OF 13 SHEETS

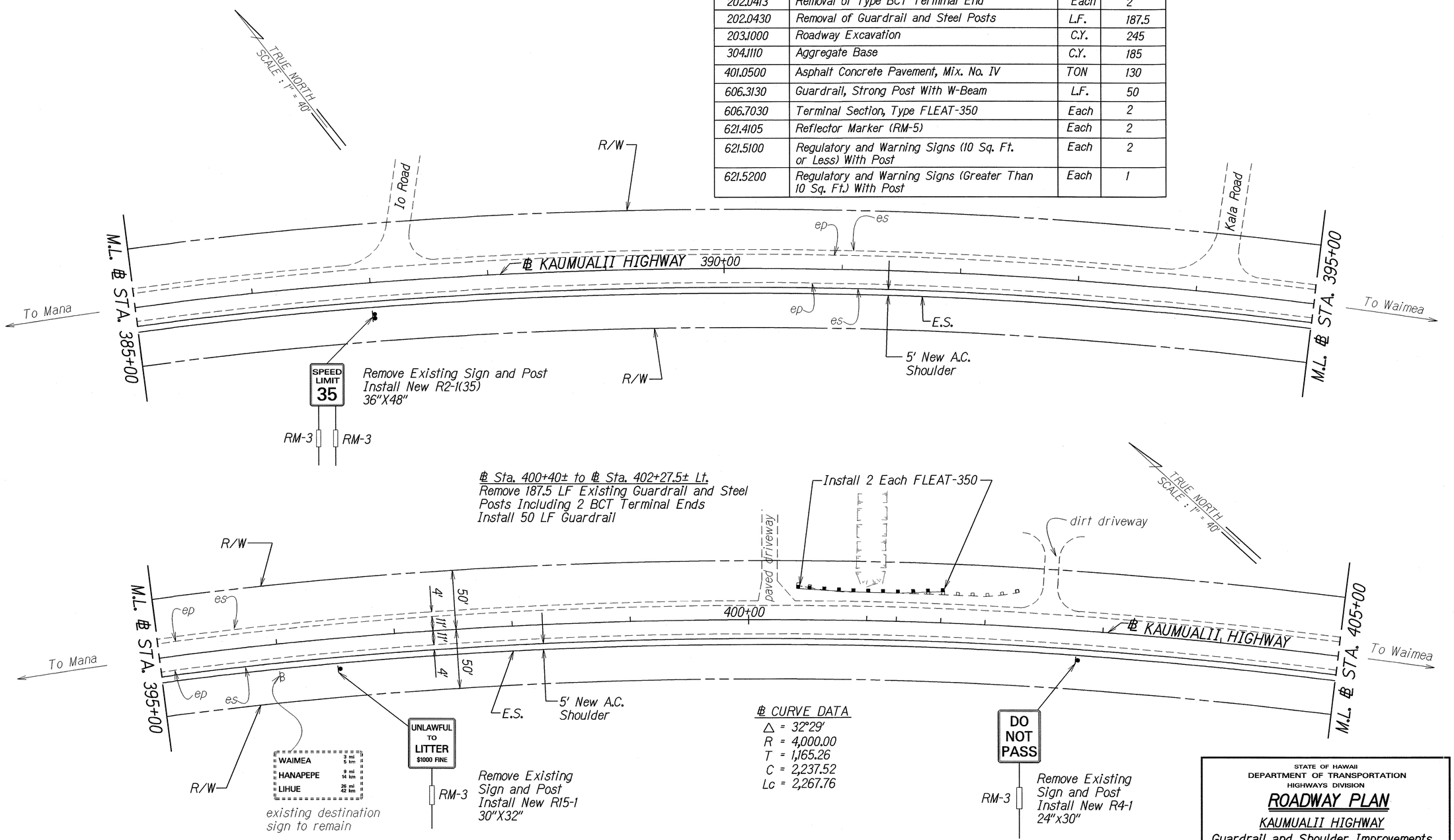
ORIGINAL PLAN | SURVEY PLOTTED BY | PLANS BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE July 2002 | NOTE BOOK No.

DDS-Highway Design Section

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	14	30

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0413	Removal of Type BCT Terminal End	Each	2
202.0430	Removal of Guardrail and Steel Posts	L.F.	187.5
203.1000	Roadway Excavation	C.Y.	245
304.1110	Aggregate Base	C.Y.	185
401.0500	Asphalt Concrete Pavement, Mix. No. IV	TON	130
606.3130	Guardrail, Strong Post With W-Beam	L.F.	50
606.7030	Terminal Section, Type FLEAT-350	Each	2
621.4105	Reflector Marker (RM-5)	Each	2
621.5100	Regulatory and Warning Signs (10 Sq. Ft. or Less) With Post	Each	2
621.5200	Regulatory and Warning Signs (Greater Than 10 Sq. Ft.) With Post	Each	1



℄ CURVE DATA
Δ = 32°29'
R = 4,000.00
T = 1,165.26
C = 2,237.52
Lc = 2,267.76

PLAN (M.P. 26.2 to M.P. 25.8)
Scale: 1"=40'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)

Scale: 1"=40' Date: July 2002

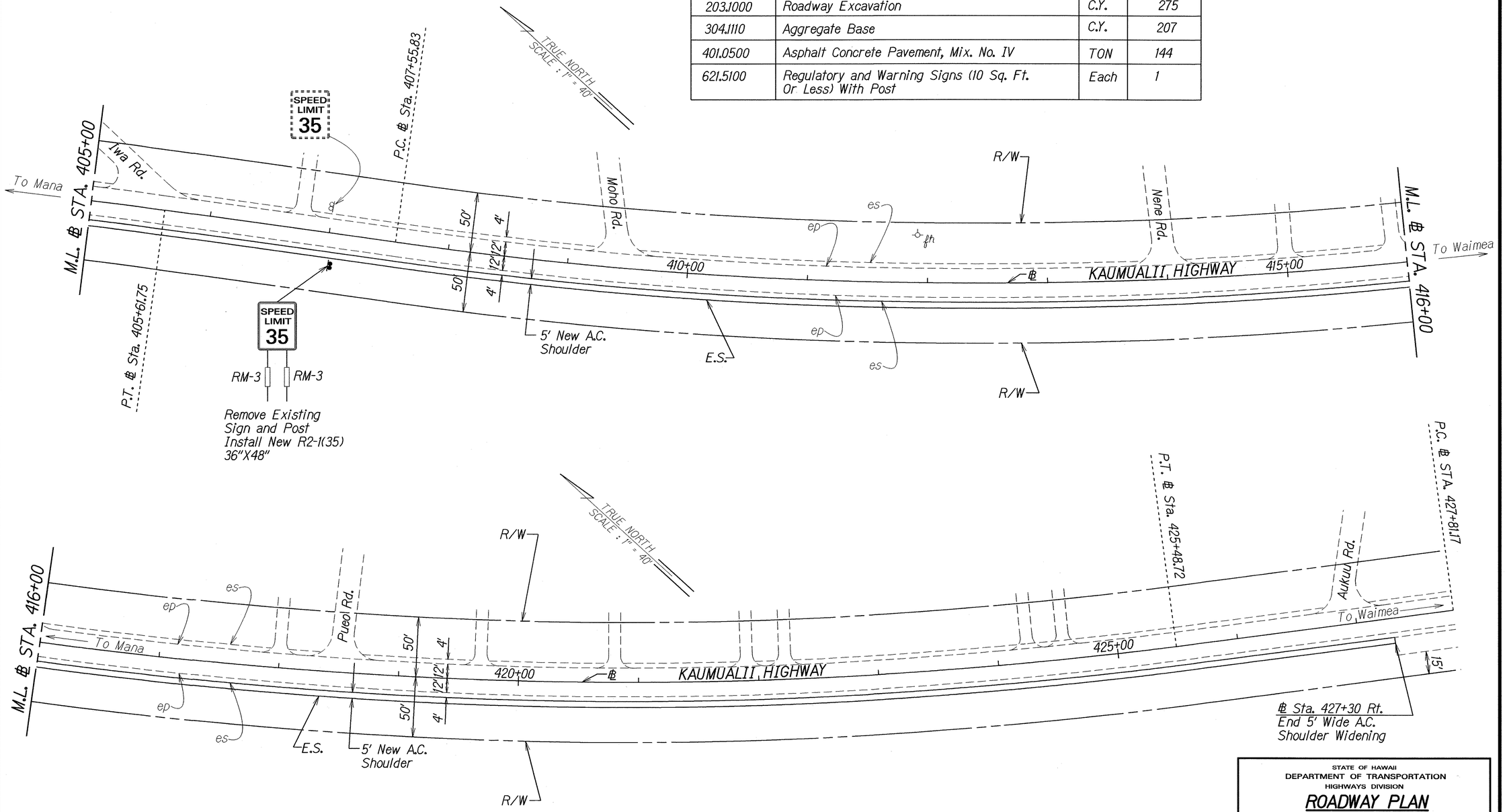
SHEET No. 8 OF 13 SHEETS

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY J. Ke
TRACED BY
DESIGNED BY J. Furuta
QUANTITIES BY
CHECKED BY
DATE July 2002
NOTE BOOK
REF. NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	15	30

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
203.1000	Roadway Excavation	C.Y.	275
304.1110	Aggregate Base	C.Y.	207
401.0500	Asphalt Concrete Pavement, Mix. No. IV	TON	144
621.5100	Regulatory and Warning Signs (10 Sq. Ft. Or Less) With Post	Each	1



PLAN (M.P. 25.8 to M.P. 25.4)
Scale: 1"=40'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE July 2002
	DRAWN BY J. Ige	
	TRACED BY	
NOTE: BASE ...	DESIGNED BY J. Turbiville	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)

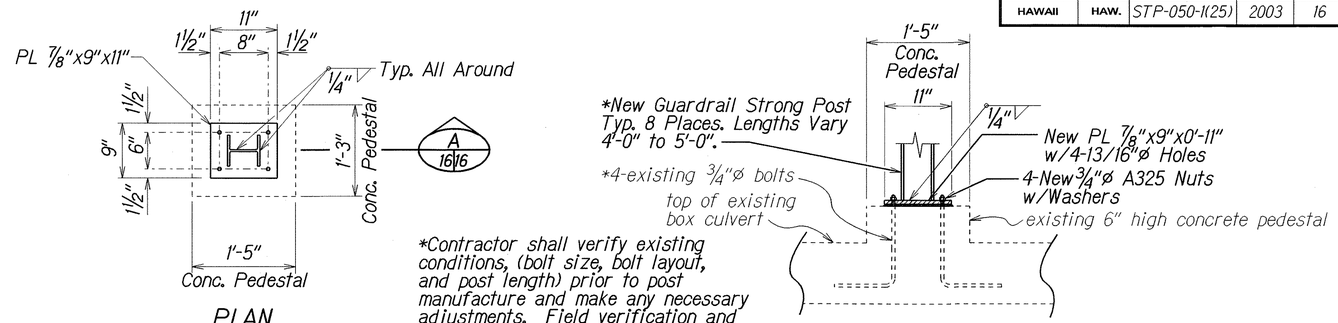
Scale: 1"=40' Date: July 2002

SHEET No. 9 OF 13 SHEETS

DD5-Highway Design Section

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	16	29

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0413	Removal of Type BCT Terminal End	Each	3
202.0430	Removal of Guardrail and Steel Posts	L.F.	237.5
606.3130	Guardrail, Strong Post with W-Beam	L.F.	187.5
606.7010	Terminal Section, Type 'G' With Rounded End	Each	1
606.7030	Terminal Section, Type FLEAT-350	Each	3
621.4105	Reflector Marker (RM-5)	Each	4



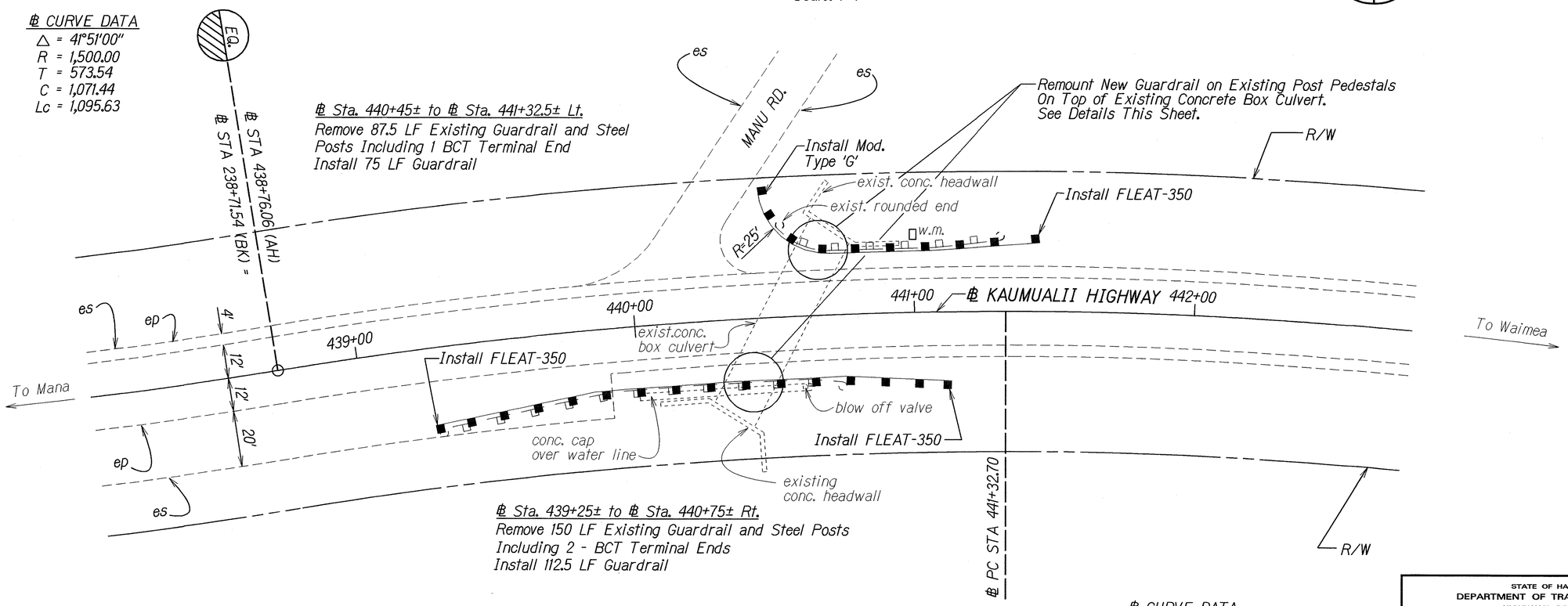
*Contractor shall verify existing conditions, (bolt size, bolt layout, and post length) prior to post manufacture and make any necessary adjustments. Field verification and special fabrication shall be considered incidental to Item 606.3130 - Guardrail, Strong Post with W-Beam.

POST MOUNTING ON BOX CULVERT DETAIL

A 16/16

Scale: 1"=1'

℄ CURVE DATA
△ = 41°51'00"
R = 1,500.00
T = 573.54
C = 1,071.44
Lc = 1,095.63



℄ Sta. 440+45± to ℄ Sta. 441+32.5± Lt.
Remove 87.5 LF Existing Guardrail and Steel Posts Including 1 BCT Terminal End
Install 75 LF Guardrail

℄ Sta. 439+25± to ℄ Sta. 440+75± Rt.
Remove 150 LF Existing Guardrail and Steel Posts Including 2 - BCT Terminal Ends
Install 112.5 LF Guardrail

℄ CURVE DATA
△ = 23°12'00"
R = 1,600.00
T = 328.43
C = 643.45
Lc = 647.87

PLAN (M.P. 25.1)

Scale: 1"=20'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE July 2002
	DRAWN BY J. Ka	
	TRACED BY	
NOTE BOOK REL.(BM)	DESIGNED BY J. Turturici	
Alignment	QUANTITIES BY	
No.	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Fed. Aid Project No. STP-050-1(25)

Scale: 1" = 20' Date: July 2002

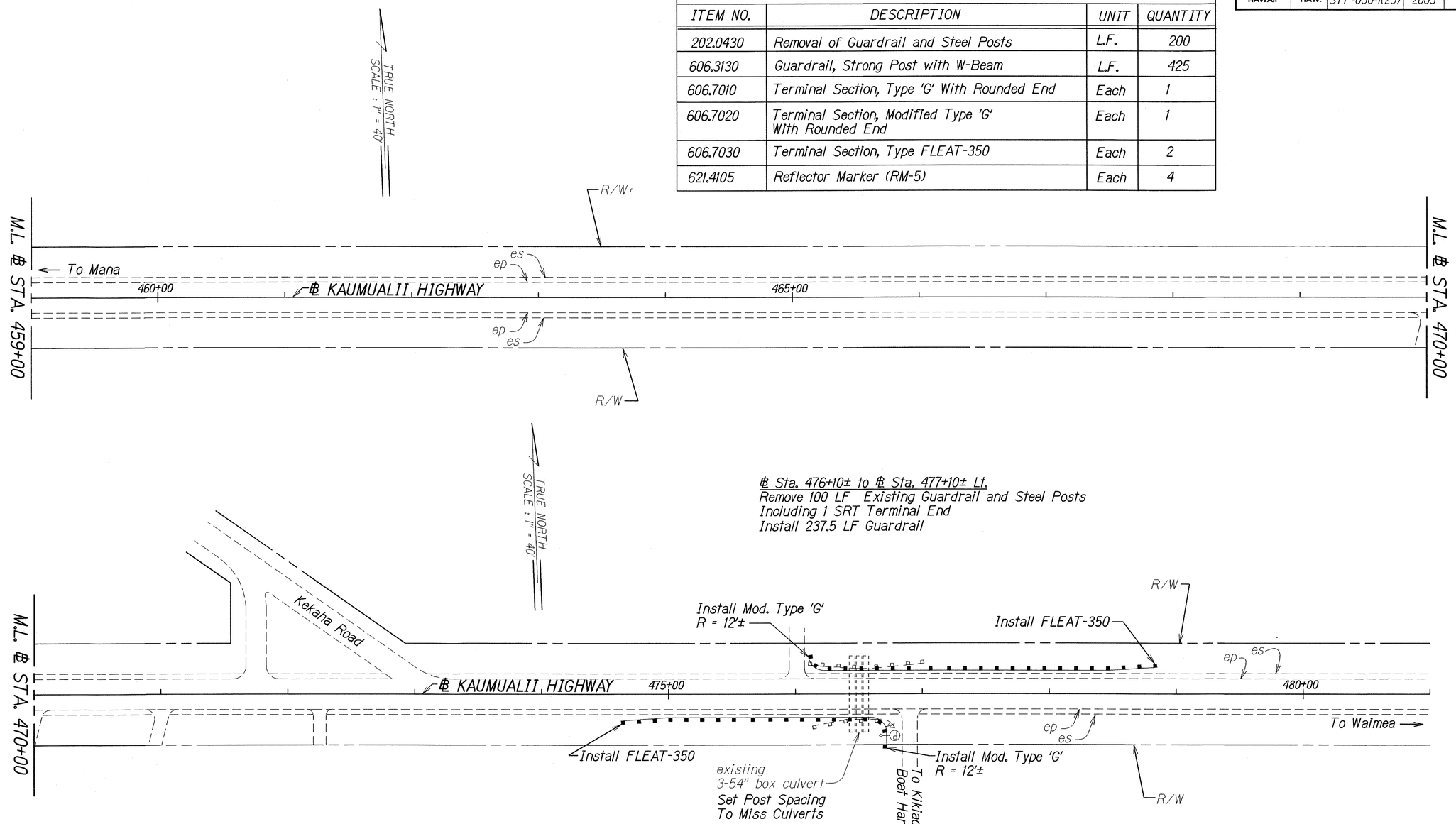
SHEET No. 10 OF 13 SHEETS

DDS-Highway Design Section

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	17	30

*ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0430	Removal of Guardrail and Steel Posts	L.F.	200
606.3130	Guardrail, Strong Post with W-Beam	L.F.	425
606.7010	Terminal Section, Type 'G' With Rounded End	Each	1
606.7020	Terminal Section, Modified Type 'G' With Rounded End	Each	1
606.7030	Terminal Section, Type FLEAT-350	Each	2
621.4105	Reflector Marker (RM-5)	Each	4



PLAN (M.P. 24.4)
Scale: 1"=40'

SURVEY PLOTTED BY	
DRAWN BY	J. Ke
TRACED BY	
DESIGNED BY	J. Fujiuchi
QUANTITIES BY	
CHECKED BY	
DATE	July 2002
ORIGINAL PLAN	
NOTE BOOK NO.	2002
	qkmulplidgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

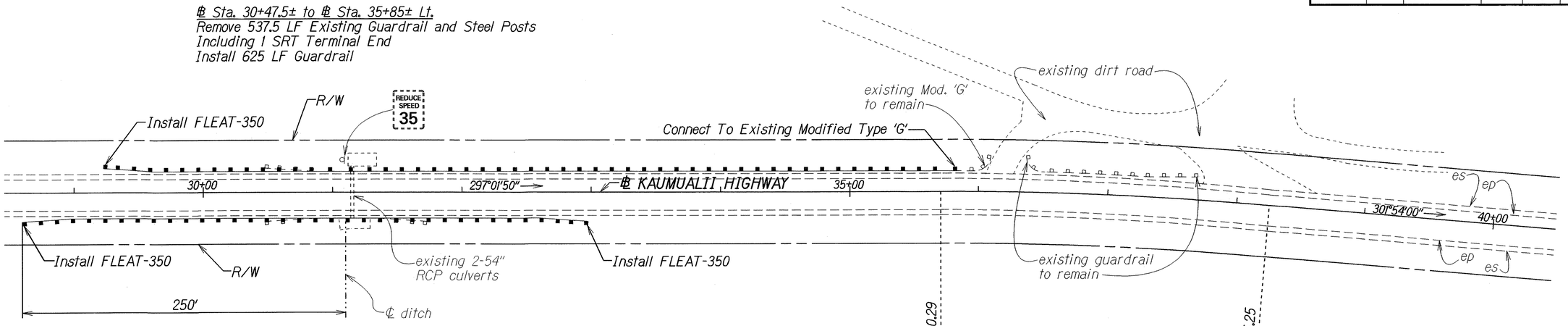
KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Fed. Aid Project No. STP-050-1(25)
Scale: 1"=40' Date: July 2002

SHEET No. 11 OF 13 SHEETS

DPS-52-Scene Design Section

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	18	30

℄ Sta. 30+47.5± to ℄ Sta. 35+85± Lt.
Remove 537.5 LF Existing Guardrail and Steel Posts
Including 1 SRT Terminal End
Install 625 LF Guardrail



℄ Sta. 30+47.5± to ℄ Sta. 31+72.5± Rt.
Remove 125 LF Existing Guardrail and Steel Posts
Including 1 SRT and 1 BCT Terminal End
Install 362.5 LF Guardrail

PC Sta. 35+70.29

PT Sta. 38+25.25

PLAN (M.P. 22.06)

Scale: 1"=40'

℄ CURVE DATA
Δ = 4° 52' 10"
R = 3,000
T = 127.56
C = 254.89
Lc = 254.96

*ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0413	Removal of Type BCT Terminal End	Each	1
202.0430	Removal of Guardrail and Steel Posts	L.F.	662.5
606.3130	Guardrail, Strong Post with W-Beam	L.F.	987.5
606.7030	Terminal Section, Type FLEAT-350	Each	3
621.4105	Reflector Marker (RM-5)	Each	8

ORIGINAL PLANS
SURVEY PLOTTED BY ____ DATE July 2002
DRAWN BY J.C.
TRACED BY J.C.
NOTE BOOK
DESIGNED BY J. Tuituia
QUANTITIES BY ____
CHECKED BY ____
No. ____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

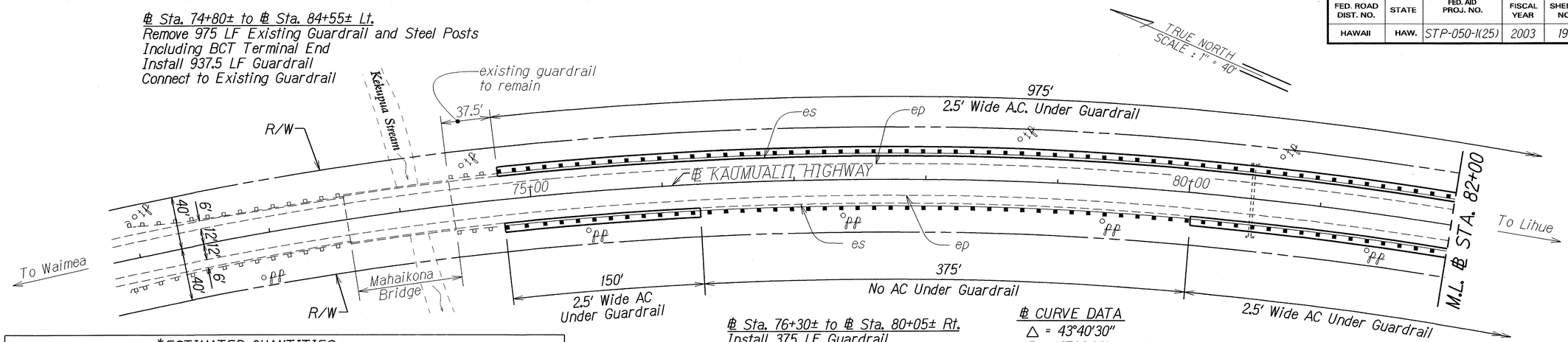
KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)
Scale: 1"=40' Date: July 2002

SHEET No. 12 OF 13 SHEETS

DIV-Highway Design Section

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(25)	2003	19	29

℄ Sta. 74+80± to ℄ Sta. 84+55± Lt.
Remove 975 LF Existing Guardrail and Steel Posts
Including BCT Terminal End
Install 937.5 LF Guardrail
Connect to Existing Guardrail



*ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202.0413	Removal of Type BCT Terminal End	Each	6
202.0430	Removal of Guardrail and Steel Posts	L.F.	2275
401.0500	Asphalt Concrete Pavement, Mix No. IV	TON	87
606.3130	Guardrail, Strong Post with W-Beam	L.F.	1912.5
606.3131	Guardrail, Strong Post with W-Beam (8' Posts)	L.F.	375
606.7030	Terminal Section, Type FLEAT-350	Each	6
621.4103	Reflector Marker (RM-3), with Steel Post	Each	12
621.4105	Reflector Marker (RM-5)	Each	26

℄ Sta. 76+30± to ℄ Sta. 80+05± Rt.
Install 375 LF Guardrail
w/8' Long Strong Post

℄ Sta. 74+80± to ℄ Sta. 76+30± Rt.
Install 150 LF Guardrail

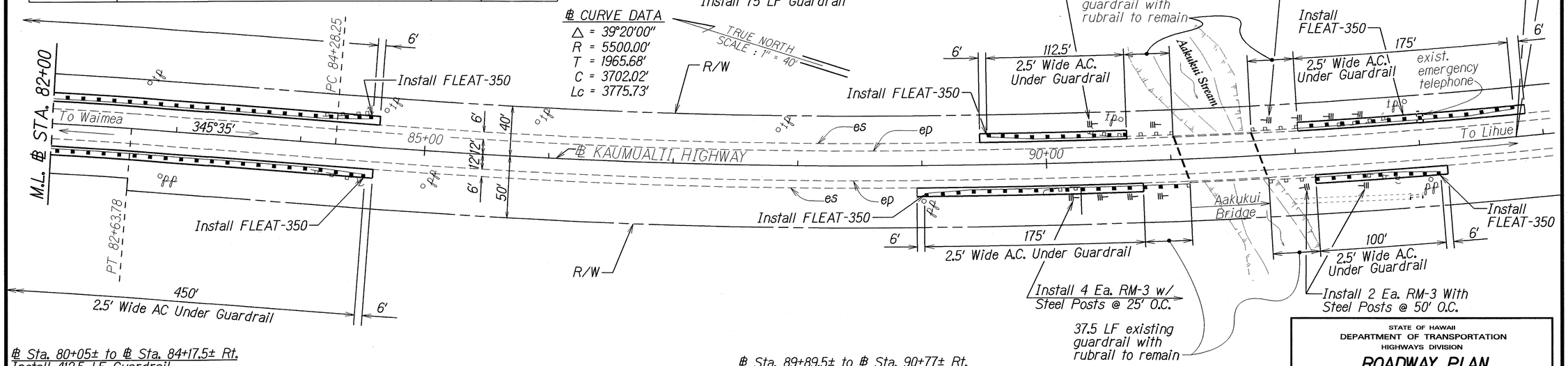
℄ CURVE DATA
△ = 43°40'30"
R = 2700.00'
T = 1081.97'
C = 2008.67'
Lc = 2058.16'

℄ Sta. 91+65.5± to ℄ Sta. 92+90.5± Lt.
Remove 87.5 LF Existing Guardrail and Steel Posts
Including BCT Terminal End
Install 137.5 LF Guardrail

END PROJECT
Project No. STP-050-1(25)
℄ Sta. 93+87.5

℄ Sta. 90+02.5± to ℄ Sta. 90+65± Lt.
Remove 62.5 LF Existing Guardrail and Steel Posts
Including BCT Terminal End
Install 75 LF Guardrail

℄ CURVE DATA
△ = 39°20'00"
R = 5500.00'
T = 1965.68'
C = 3702.02'
Lc = 3775.73'



℄ Sta. 80+05± to ℄ Sta. 84+17.5± Rt.
Install 412.5 LF Guardrail

℄ Sta. 74+80± to ℄ Sta. 84+55± Rt.
Remove 975 LF Existing Guardrail and Steel Posts
Including BCT Terminal End

PLAN (M.P. 21.0±)
Scale: 1"=40'

℄ Sta. 89+89.5± to ℄ Sta. 90+77± Rt.
Remove 87.5 LF Existing Guardrail and Steel Posts
Including BCT Terminal End
Install 137.5 LF Guardrail

℄ Sta. 92+15± to ℄ Sta. 93+02.5± Rt.
Remove 87.5 LF Existing Guardrail and Steel Posts
Including BCT Terminal End
Install 62.5 LF Guardrail

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
KAUMUALII HIGHWAY
Guardrail and Shoulder Improvements
Hanapepe to Mana
Federal Aid Project No. STP-050-1(25)
Scale: 1"=40' Date: July 2002

SHEET No. 13 OF 13 SHEETS

ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE July 2002
NOTE BOOK
Jim Turturici

DOT-Highway Division Services