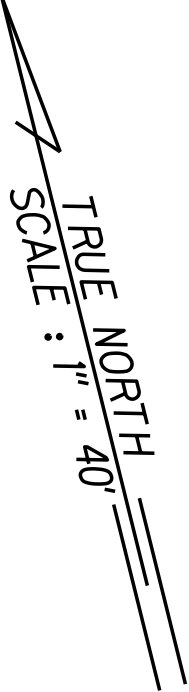
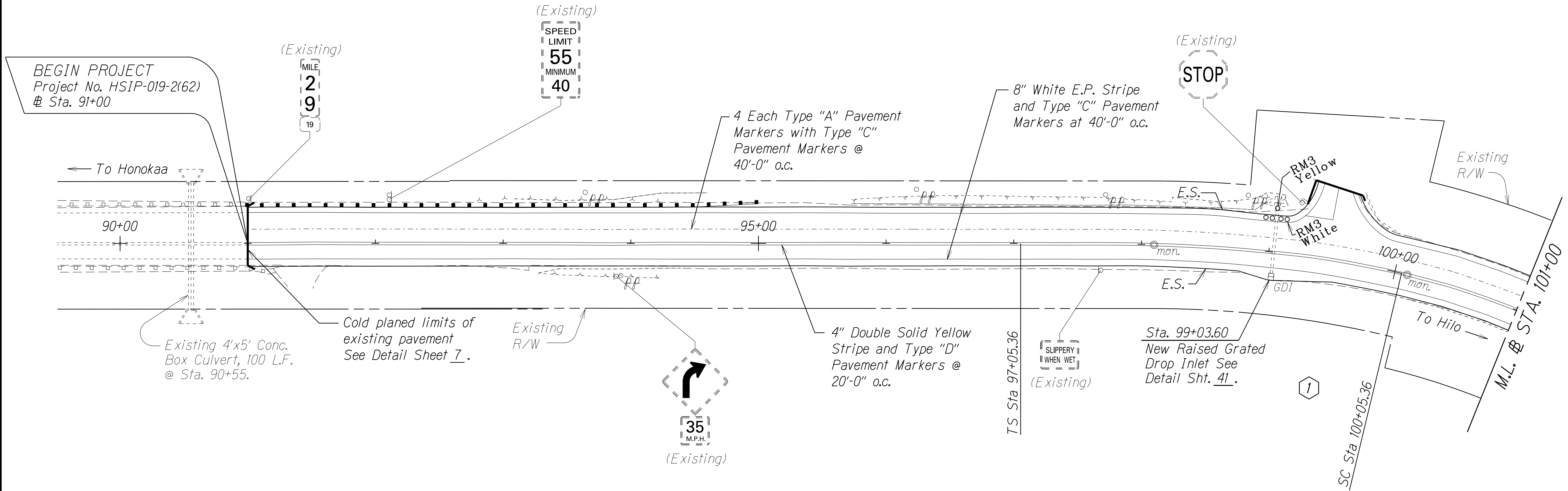


DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-019-2(62)	2012	18	42



Sta. 91+00 to 95+00 Lt.
Remove 400 Lin. Ft. Mtl. Guardrail,
Posts and ET 2000 End Treatment and
Install 400 Lin. Ft. Mtl. Guardrail Posts
Install 1 - ET 2000 Plus Leading End Treatment
connecting to existing guardrail.



①
@ CURVE DATA
 $\Delta = 28^{\circ}44'16.98''$
 $\Delta c = 15^{\circ}14'17''$
 $Dc = 9^{\circ}00'00''$
 $\theta s = 13^{\circ}29'59.98''$
 $R = 636.62$
 $Lc = 169.31$
 $Ls = 300.00$
 $Ts = 85.16$
 $S. E. = 0.10 \text{ ft/ft}$

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

(Ka'awali'i Gulch)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY AND STRIPING PLAN

HAWAII BELT ROAD
Safety Improvements
Laupahoehoe Gulch and Ka'awali'i Gulch
Federal Aid Project No. HSIP-019-2(62)
Scale: 1" = 40' Date: June, 2012

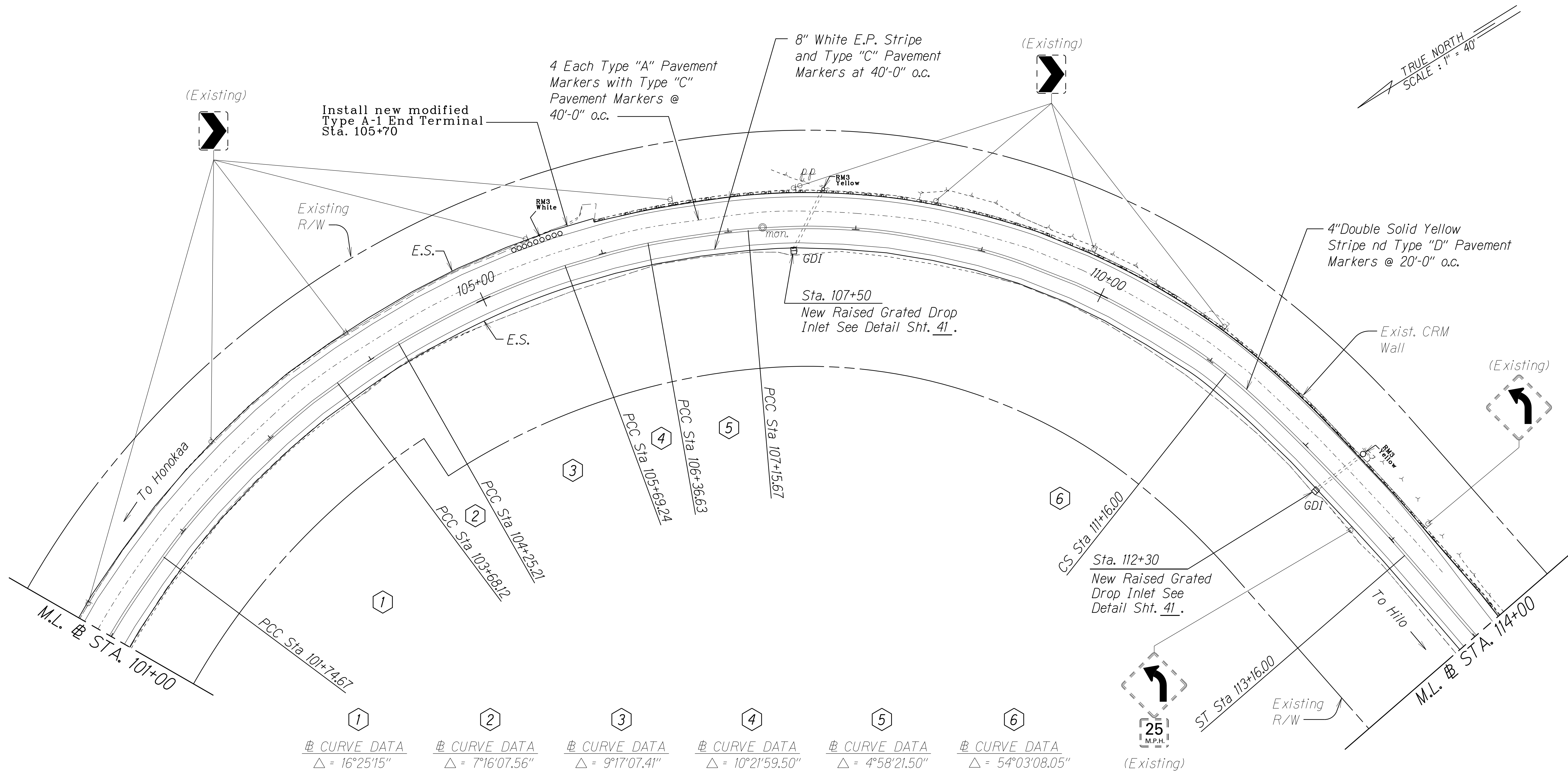
SHEET No. 1 OF 10 SHEETS

- Notes:
1. All existing signs and post to remain.
 2. All existing signs in conflict with construction signs are to be covered.
 3. This work shall be considered incidental to various contract items.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	X
DESIGNED BY	TRACED BY	
CHECKED BY	DESIGNED BY	
NOTED BY	CHECKED BY	

"AS-BUILT"

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-019-2(62)	2012	19	42



1	2	3	4	5	6
# CURVE DATA	# CURVE DATA	# CURVE DATA	# CURVE DATA	# CURVE DATA	# CURVE DATA
$\Delta = 16^{\circ}25'15''$	$\Delta = 7^{\circ}16'07.56''$	$\Delta = 9^{\circ}17'07.41''$	$\Delta = 10^{\circ}21'59.50''$	$\Delta = 4^{\circ}58'21.50''$	$\Delta = 54^{\circ}03'08.05''$
$D = 8^{\circ}29'17.75''$	$D = 12^{\circ}43'56.62''$	$D = 6^{\circ}26'49.53''$	$D = 5^{\circ}22'54.51''$	$D = 6^{\circ}17'29.06''$	$\Delta c = 43^{\circ}14'56.13''$
$R = 675.00$	$R = 450.00$	$R = 888.71$	$R = 372.49$	$R = 910.70$	$Dc = 10^{\circ}48'11.92''$
$T = 97.39$	$T = 28.58$	$T = 72.17$	$T = 33.79$	$T = 39.54$	$\theta s = 10^{\circ}48'11.92''$
$C = 192.79$	$C = 57.05$	$C = 143.87$	$C = 67.30$	$C = 79.01$	$R = 530.35$
$Lc = 193.45$	$Lc = 57.09$	$Lc = 144.02$	$Lc = 67.39$	$Lc = 79.04$	$Lc = 400.33$
$S. E. = 0.10 \text{ ft/ft}$	$S. E. = 0.10 \text{ ft/ft}$	$S. E. = 0.10 \text{ ft/ft}$	$S. E. = 0.10 \text{ ft/ft}$	$S. E. = 0.10 \text{ ft/ft}$	$Ls = 200.00$
					$Ts = 210.24$
					$S. E. = 0.010 \text{ ft/ft}$

- Notes:
- All existing signs and post to remain.
 - All existing signs in conflict with construction signs are to be covered.
 - This work shall be considered incidental to various contract items.

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

(Ka'awali'i Gulch)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

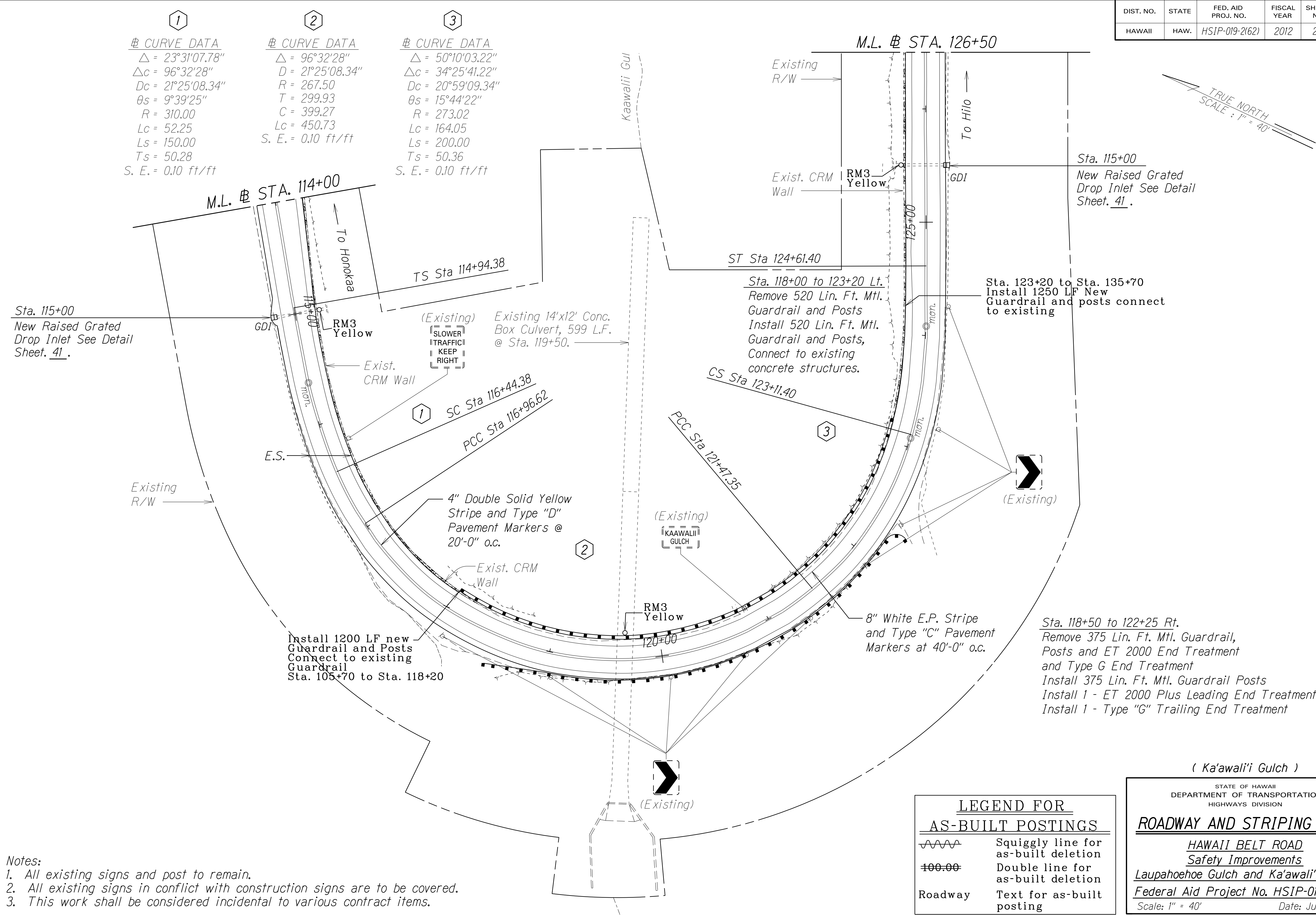
ROADWAY AND STRIPING PLAN

HAWAII BELT ROAD
Safety Improvements
Laupahoehoe Gulch and Ka'awali'i Gulch
Federal Aid Project No. HSIP-019-2(62)
Scale: 1" = 40' Date: June, 2012

SHEET No. 2 OF 10 SHEETS

"AS-BUILT"

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-019-2(62)	2012	20	42



Notes:

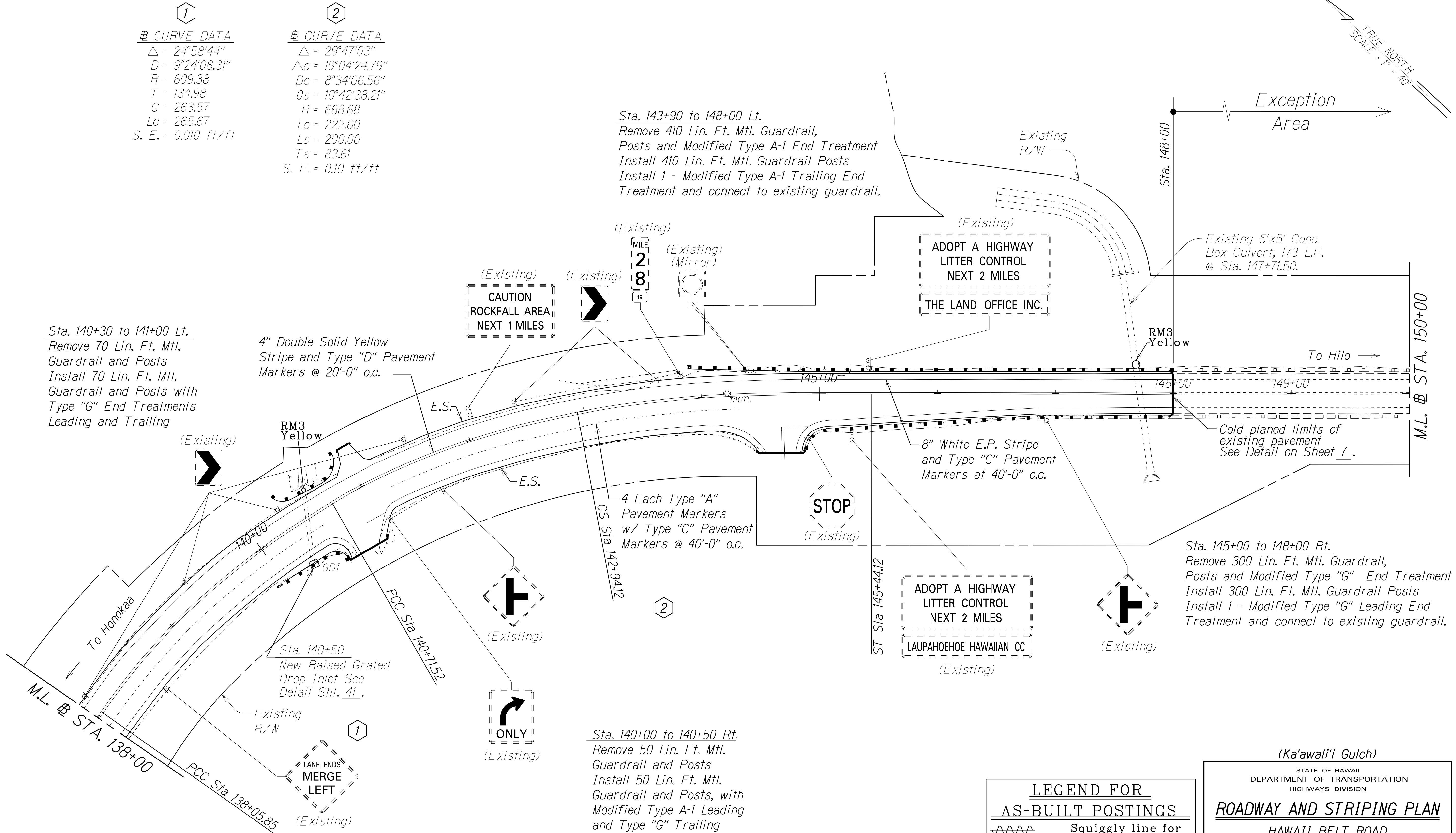
- All existing signs and post to remain.
- All existing signs in conflict with construction signs are to be covered.
- This work shall be considered incidental to various contract items.

"AS-BUILT"

20

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-019-2(62)	2012	22	42

①	②
<u>△ CURVE DATA</u>	<u>△ CURVE DATA</u>
△ = 24°58'44"	△ = 29°47'03"
D = 9°24'08.31"	△c = 19°04'24.79"
R = 609.38	Dc = 8°34'06.56"
T = 134.98	θs = 10°42'38.21"
C = 263.57	R = 668.68
Lc = 265.67	Lc = 222.60
S. E. = 0.010 ft/ft	Ls = 200.00
	Ts = 83.61
	S. E. = 0.10 ft/ft



- Notes:
1. All existing signs and post to remain.
 2. All existing signs in conflict with construction signs are to be covered.
 3. This work shall be considered incidental to various contract items.

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

(Ka'awali'i Gulch)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

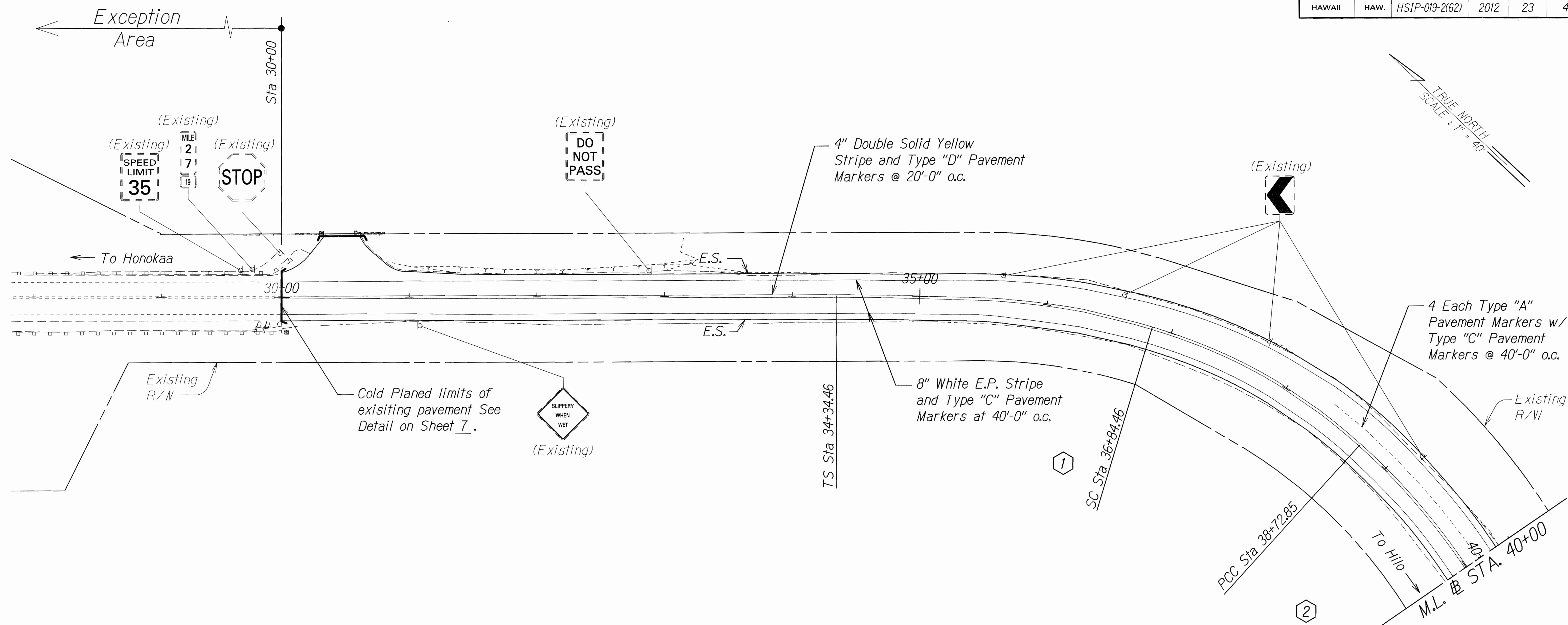
ROADWAY AND STRIPING PLAN

HAWAII BELT ROAD
Safety Improvements
Laupahoehoe Gulch and Ka'awali'i Gulch
Federal Aid Project No. HSIP-019-2(62)
Scale: 1" = 40' Date: June, 2012

SHEET No. 5 OF 10 SHEETS

"AS-BUILT"

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-019-2(62)	2012	23	42



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

- Notes:
1. All existing signs and post to remain.
 2. All existing signs in conflict with construction signs are to be covered.
 3. This work shall be considered incidental to various contract items.

#	CURVE DATA	#	CURVE DATA
1	$\Delta = 42^{\circ}23'53.99''$	2	$\Delta = 18^{\circ}59'32.01''$
	$\Delta c = 25^{\circ}29'13''$		$D = 10^{\circ}24'06.86''$
	$Dc = 13^{\circ}31'44.79''$		$R = 550.82$
	$\theta s = 16^{\circ}54'41''$		$T = 92.14$
	$R = 423.50$		$C = 181.75$
	$Lc = 188.39$		$Lc = 182.58$
	$Ls = 250.00$		$S. E. = 0.10 \text{ ft/ft}$
	$Ts = 84.03$		
	$S. E. = 0.10 \text{ ft/ft}$		

(Laupahoehoe Gulch)

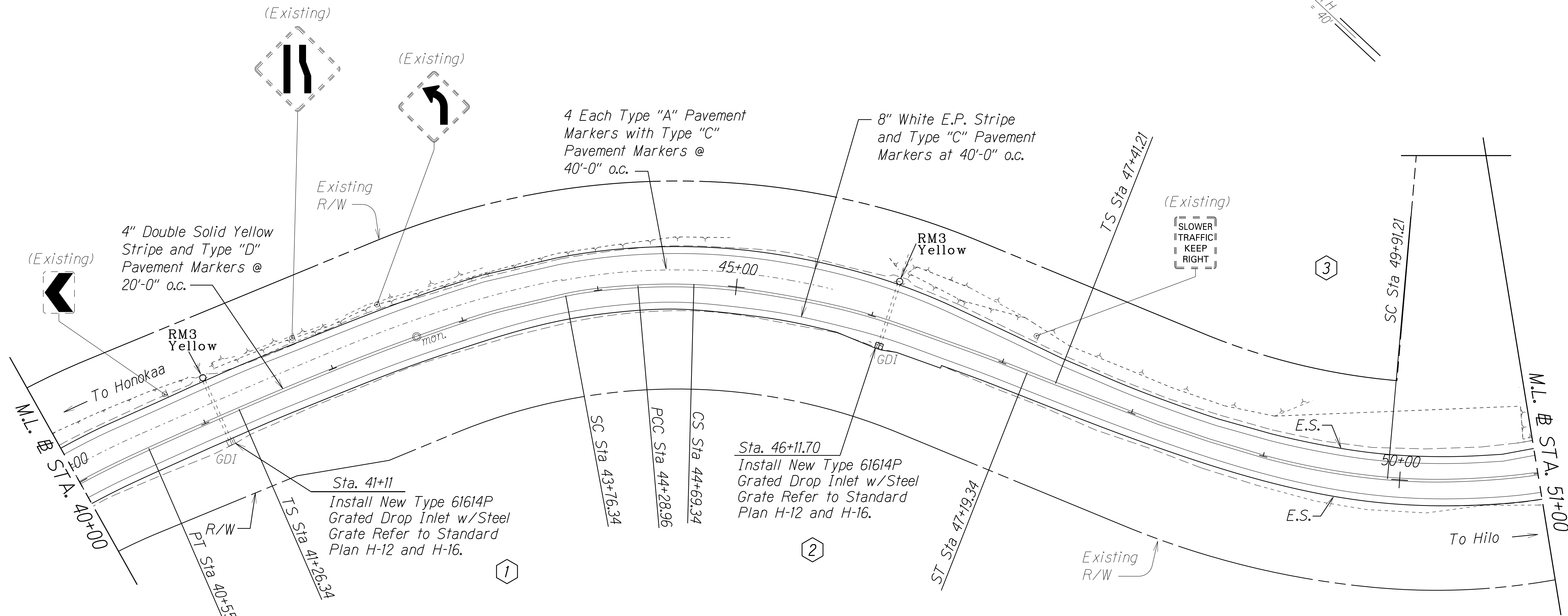
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY AND STRIPING PLAN

HAWAII BELT ROAD
Safety Improvements
Laupahoehoe Gulch and Ka'awali'i Gulch
Federal Aid Project No. HSIP-019-2(62)
Scale: 1" = 40' Date: June, 2012

SHEET No. 6 OF 10 SHEETS

DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-019-2(62)	2012	24	42



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

1	2	3
<u># CURVE DATA</u> $\Delta = 18^{\circ}31'40.5200''$ $\Delta c = 5^{\circ}29'19''$ $Dc = 10^{\circ}25'53.22''$ $\theta s = 13^{\circ}02'21.52''$ $R = 549.26$ $Lc = 52.6$ $Ls = 250.00$ $Ts = 83.75$ $S. E. = 0.10 \text{ ft/ft}$	<u># CURVE DATA</u> $\Delta = 26^{\circ}29'12.48''$ $\Delta c = 6^{\circ}28'04.33''$ $Dc = 16^{\circ}00'54.52''$ $\theta s = 20^{\circ}01'08.15''$ $R = 357.76$ $Lc = 40.39$ $Ls = 250.00$ $Ts = 84.31$ $S. E. = 0.10 \text{ ft/ft}$	<u># CURVE DATA</u> $\Delta = 35^{\circ}13'54.45''$ $\Delta c = 18^{\circ}46'37''$ $Dc = 13^{\circ}09'50''$ $\theta s = 16^{\circ}27'17.45''$ $R = 435.25$ $Lc = 142.64$ $Ls = 250.00$ $Ts = 83.99$ $S. E. = 0.10 \text{ ft/ft}$

- Notes:
- All existing signs and post to remain.
 - All existing signs in conflict with construction signs are to be covered.
 - This work shall be considered incidental to various contract items.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
DESIGNED BY	TRACED BY	
CHECKED BY	NOTED BY	

(Laupahoehoe Gulch)

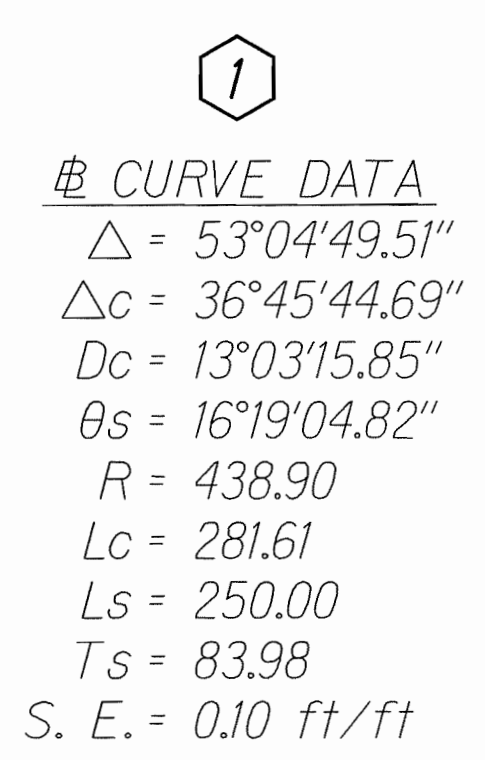
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY AND STRIPING PLAN

HAWAII BELT ROAD
Safety Improvements
Laupahoehoe Gulch and Ka'awali'i Gulch
Federal Aid Project No. HSIP-019-2(62)

Scale: 1" = 40' Date: June, 2012

SHEET No. 7 OF 10 SHEETS



ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK helik 06/17/2010.dwg	DRAWN BY <u>X</u>	• <u>X</u>
	TRACED BY _____	• _____
	DESIGNED BY <u>X</u>	• _____
	QUANTITIES BY _____	• _____
	CHECKED BY _____	• _____

27