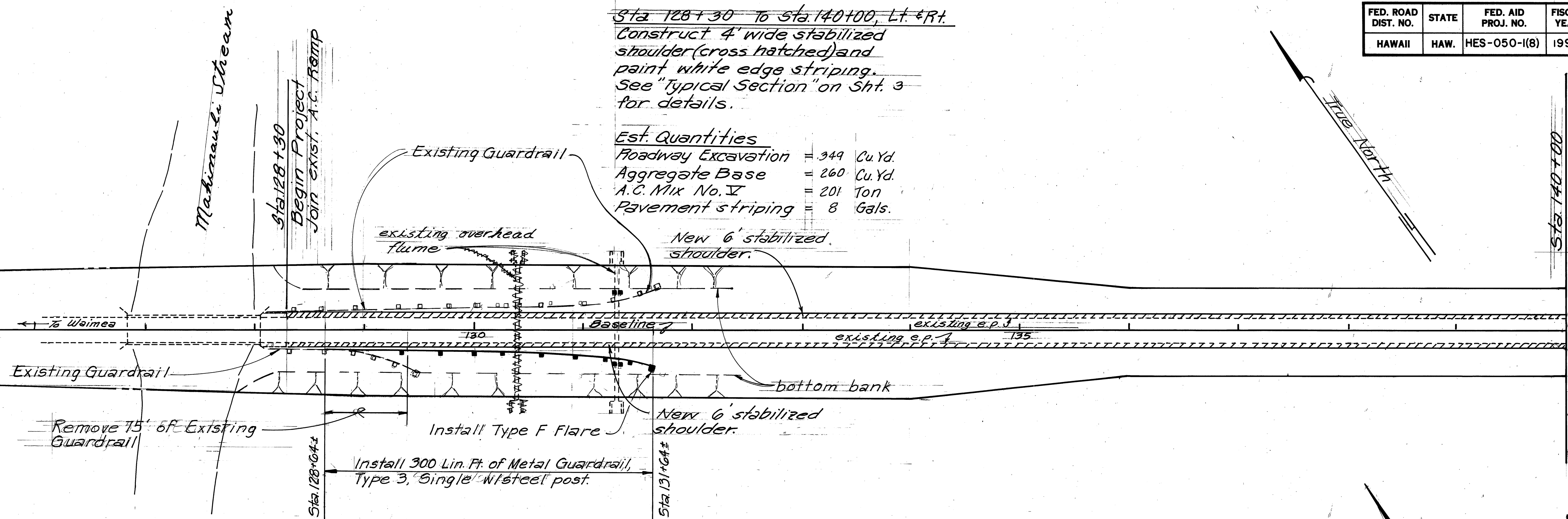


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-050-1(8)	1990	4	6

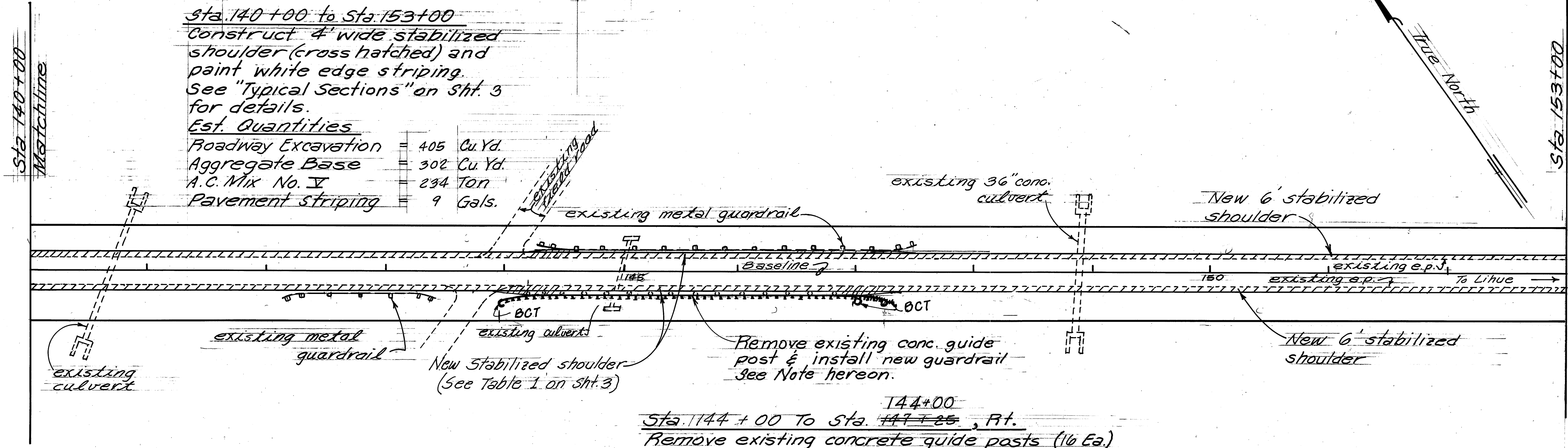
Sta 128+30 to Sta 140+00, Lt. & Rt.
Construct 4' wide stabilized shoulder (cross hatched) and paint white edge striping.
See "Typical Section" on Sht. 3 for details.

Est. Quantities
Roadway Excavation = 349 Cu. Yd.
Aggregate Base = 260 Cu. Yd.
A.C. Mix No. V = 201 Ton
Pavement Striping = 8 Gals.



Sta 140+00 to Sta 153+00
Construct 4' wide stabilized shoulder (cross hatched) and paint white edge striping.
See "Typical Sections" on Sht. 3 for details.

Est. Quantities
Roadway Excavation = 405 Cu. Yd.
Aggregate Base = 302 Cu. Yd.
A.C. Mix No. V = 234 Ton
Pavement Striping = 9 Gals.



Sta 144+00 To Sta 147+25, Rt.
Remove existing concrete guide posts (16 Ea.) and install new guard rail, Type 3, single w/ steel posts. Install Type BCT terminal section.

Est. Quantities
Guardrail = 250 Lin. Ft.
Type BCT = 2 Ea.
RM-1 = 3 Ea.
RM-3 = 2 Ea.

DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
NO.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

KAUNIAULI HIGHWAY
GUARDRAIL & SHOULDER IMPROVEMENTS
KAUNIAULI TO MAHANAULI
F.A. PROJECT NO. HES-050-1(8)
Scale: 1" = 50' Aug. 1989

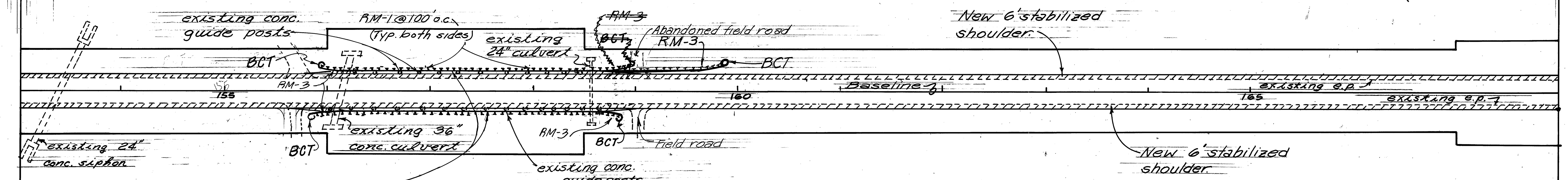
SHEET NO. 4 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-050-1(8)	1990	5	6

Sta 153+00
Matchline
Continued from Sht. 4

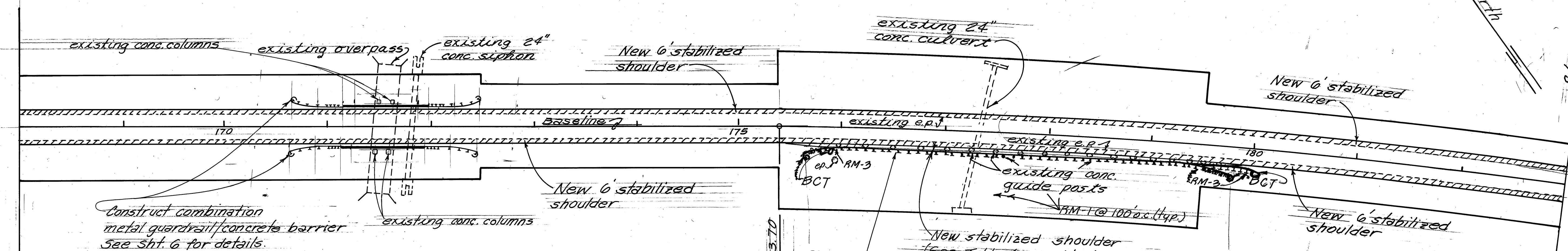
Sta 156+00± To Sta 159+00± Lt. & Rt.
Remove existing conc. guide posts (28 Ea)
Sta 155+90 To Sta 159+00± Lt.
Install new guardrail, Type 3, single w/ steel posts. Install Type BCT Terminal Section. 350
Guardrail = 350 Lin. Ft.
Type BCT = 2 Ea.
RM-1 = 2 Ea.
RM-3 = 2 Ea.

Sta 153+00 To Sta 168+00, Lt. & Rt.
Construct 4' wide stabilized shoulder (cross hatched) and paint white edge striping. See "Typical Section" on Sht. 3 for details.
Est. Quantities
Roadway Excavation = 467 Cu Yd
Aggregate Base = 349 Cu Yd
A.C. Mix V = 269 Tons
Pavement Striping = 10 Gals.



Remove exist. conc. guide posts and install new guardrail. See Notes hereon

155+89
Sta 155+89 To Sta 158+05± Rt.
Install new guardrail, Type 3, single w/ steel posts. Install Type BCT Terminal Section.
Guardrail = 255 Lin. Ft. 187.50 Lin. Ft.
Type BCT = 2 Ea.
RM-1 = 2 Ea.
RM-3 = 2 Ea.



Construct combination metal guardrail/concrete barrier. See Sht. 6 for details.

Sta 168+00 To Sta 183+00
Construct 4' wide stabilized shoulder (cross hatched) and paint white edge striping. See "Typical Section" on Sht. 3 for details.
Est. Quantities
Roadway Excavation = 459 Cu Yd
Aggregate Base = 343 Cu Yd
A.C. Mix V = 265 Ton
Pavement Striping = 10 Gals.

175+95 180+07.50
Sta 175+95 To Sta 183+00± Rt.
Remove existing conc. guide posts (22 Ea) and install new guardrail, Type 3, single w/ steel posts. Install Type BCT terminal section.
Est. Quantities
Guardrail = 360 Lin. Ft. 362.50 Lin. Ft.
Type BCT = 2 Ea.
RM-1 = 3 Ea.
RM-3 = 2 Ea.

Sta 168+00
Matchline

Sta 168+00
Matchline
Continued @ left below

Sta 183+00
Matchline
Continued on Sht. 6

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

KAUMLALI HIGHWAY
GUARDRAIL & SHOULDER IMPROVEMENTS
KAUAKANI TO MAKAWELI
EAPROJECT NO. HES-050-1(8)
Scale: 1" = 50' Aug. 1989

SHEET NO. 5 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HES-050-1(8)	1990	6	6

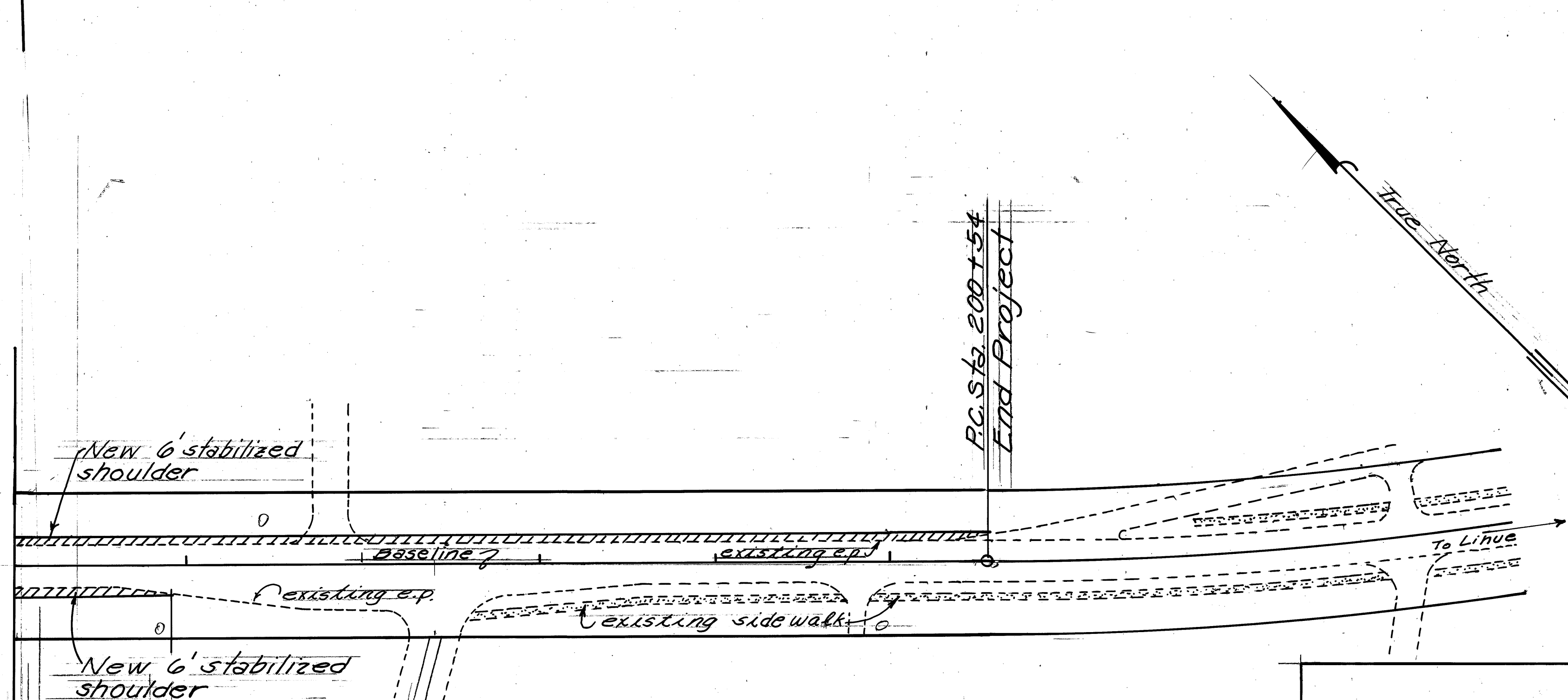
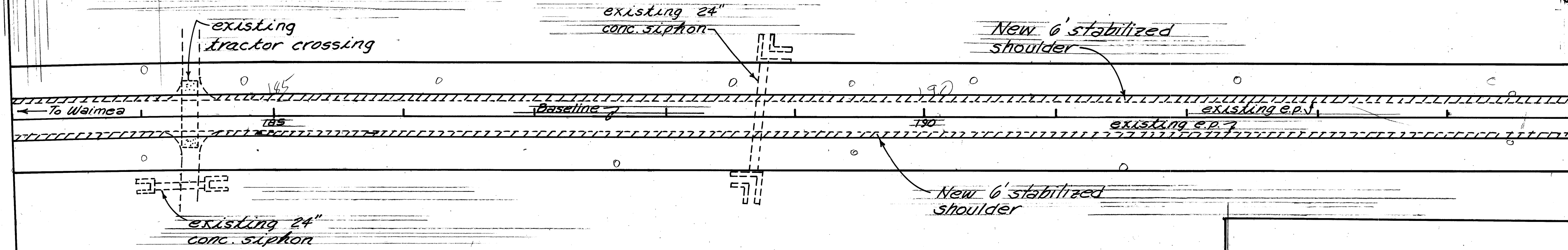
Sta 183+00 To Sta 195+00
Construct 4' wide stabilized shoulder (cross hatched) and paint white edge striping.

Est. Quantities

Roadway excavation = 358 Cu. Yd.
Aggregate Base = 267 Cu. Yd.
A.C. Mix V = 225 Ton
Pavement striping = 8 Gals.

Sta 183+00
Continued from sheet 5

Sta 195+00
Match line
Continued on sheet below



Sta 195+00
Matchline

Sta 195+90

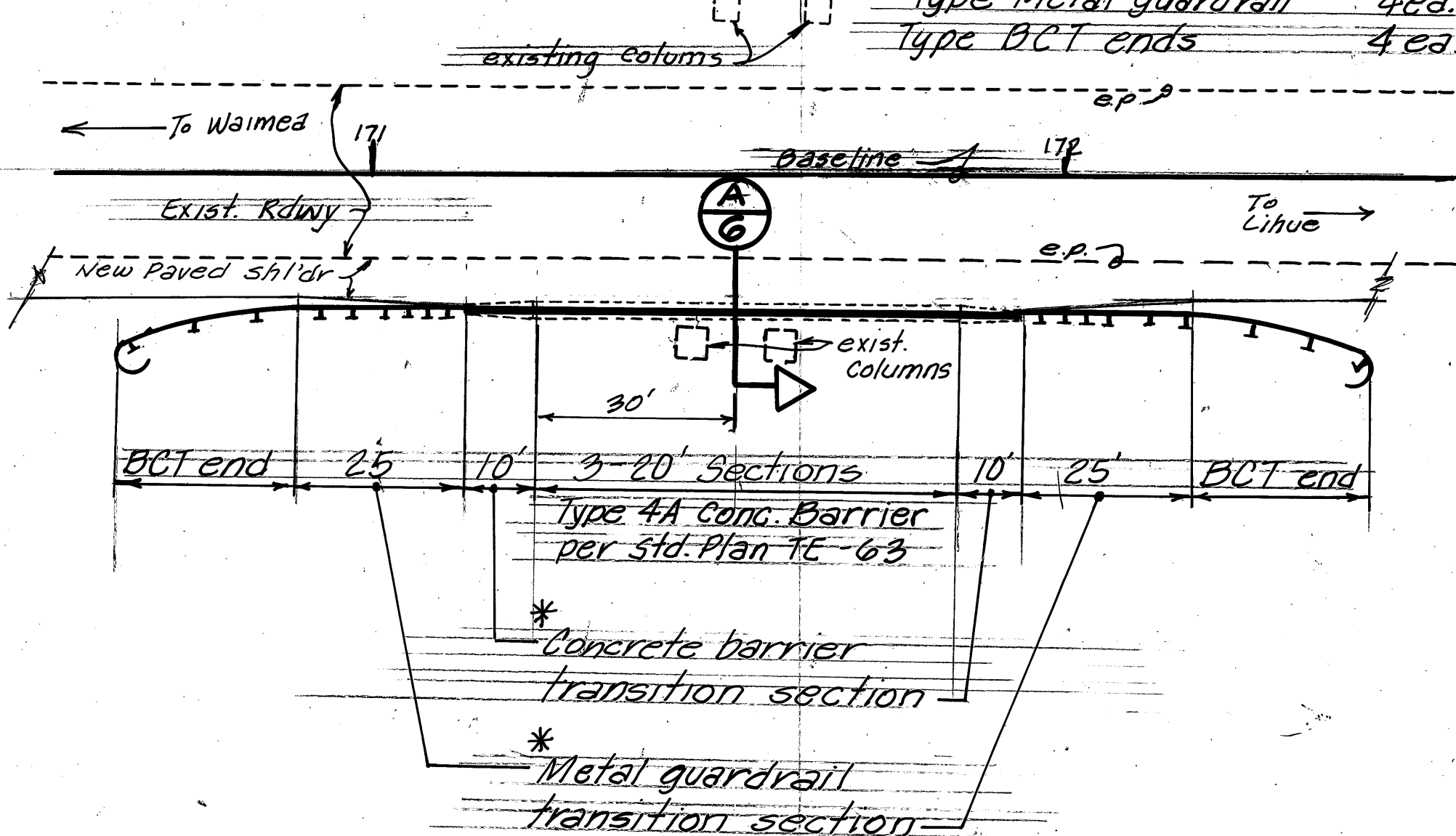
Sta 195+00 to Sta 200+54±, Lt.
Sta 195+00 to Sta 195+90±, Rt.
Construct 4' wide stabilized shoulder (cross hatched) and paint white edge striping.
See sheet for details.

Est. Quantities

Roadway excavation = 97 Cu. Yd.
Aggregate base = 72 Cu. Yd.
A.C. Mix V = 56 Ton
Pavement striping = 2 Gals.

Estimated Quantities

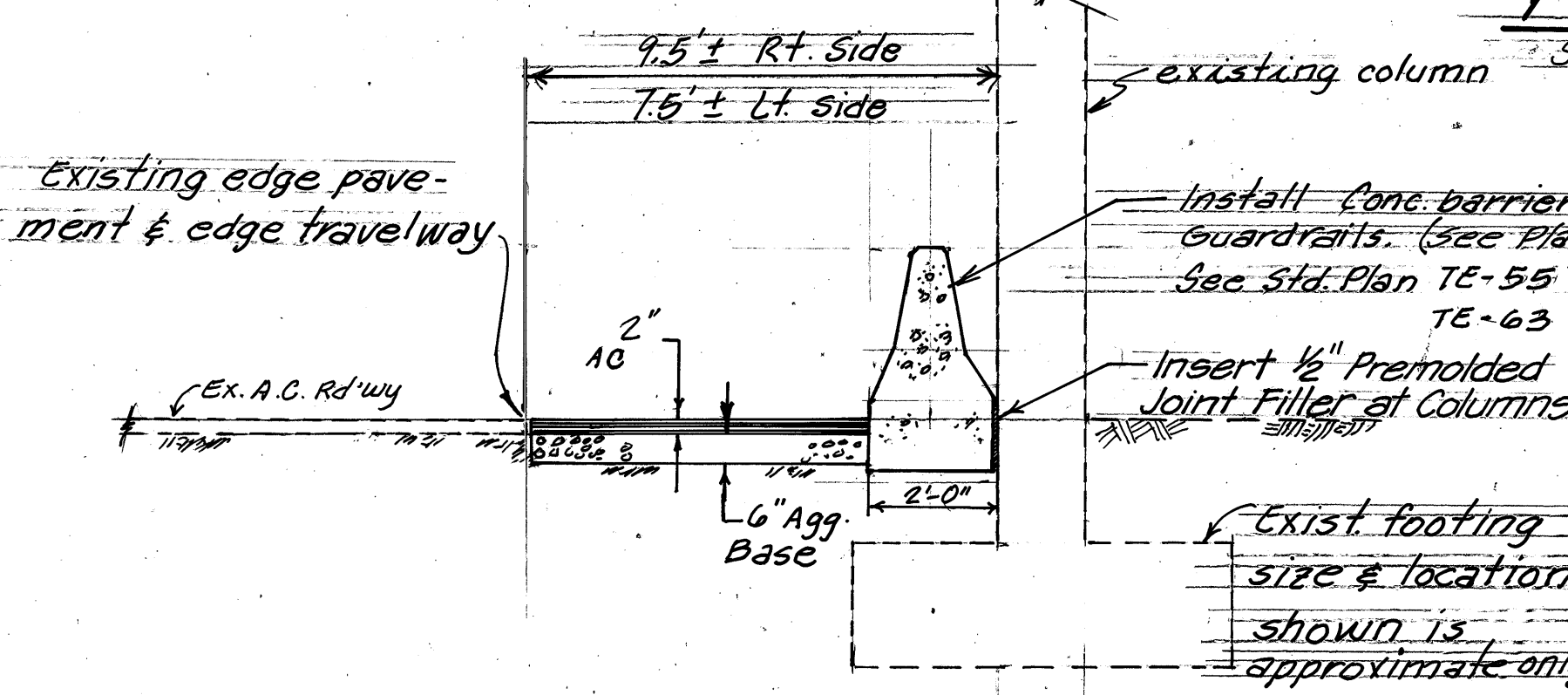
Guardrail, type 4a = 120 Lm ft.
Transition Section,
Type Conc. rigid barrier = 4 ea.
Transition Section,
Type Metal guardrail = 4 ea.
Type BCT ends = 4 ea.



PLAN

(Right side shown, left side use similar layout)
Scale: 1" = 20'

* Construct per Std. Plan TE-55
Delete rub rails. Metal guardrail on traffic side only.



SECTION

Scale: 3/4" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN
KAUNIAHUA HIGHWAY
GUARDRAIL & SHOULDER IMPROVEMENTS
KAUNIAHUA TO MAKAHANA
F.A. PROJECT NO. HES-050-1(8)
Scale: 1" = 50' Aug., 1989

SHEET NO. 6 OF 6 SHEETS