

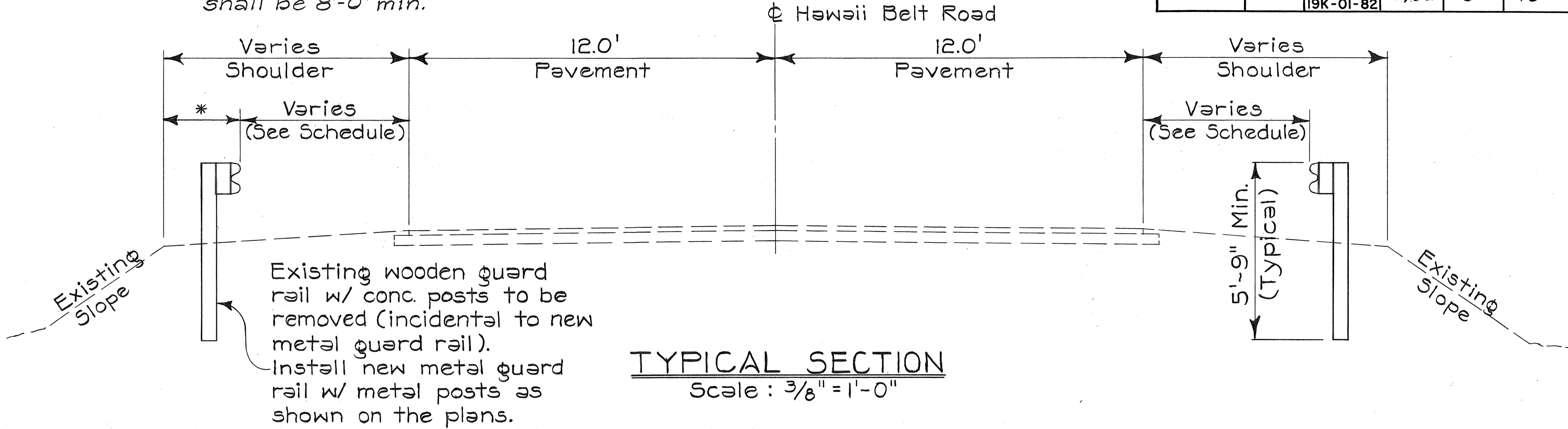
GUARD RAIL SCHEDULE

INSTALLATION OF NEW GUARD RAIL WITH STEEL POSTS

BEGIN STATION	END STATION	GR, TYPE 3 SINGLE	GR, TYPE 3 SINGLE W/ RUB RAIL	GR, TYPE 3 DOUBLE	GR, TYPE 3 DBL. W/ RUB RAIL	END TREATMENT	EDGE OF PAV'T TO GR. FACE
-2 + 00L	3 + 75L	525.500'				BCT & BCT	8'
3 + 85R (Rt. 68' to 6GR)	5 + 50R	37.5'				G & G	23'
4 + 40R	5 + 50R	150.62.5'				G & F	8'
15 + 68L	25 + 06L	875.500'				BCT & BCT	5.5'
15 + 38R	21 + 26R	587.5'				C & F	5.5'
42 + 67R	44 + 30R	162.5'				C & F	8'
44 + 64 to 46 + 26 Median		137.5'	325'	50'	50'	INERTIAL BARRIERS, DT 505	Varies
46 + 67L	47 + 92L	125'				END SHOULDER & C	9.5'
53 + 89 to 55 + 14 Median		314.5'	250'	50'	50'	INERTIAL BARRIERS, DT 505	Varies
59 + 70L	62 + 82L	287.5'				G & C	12'
59 + 97 ~ 60 + 69R to		250'					
60 + 50 ~ 62 + 40R *		262.5'				C & F	8'
64 + 02R	66 + 14R	187.5'	25'			C & TYPE B	6'
67 + 90L	68 + 65L	50'	25'			TYPE B & C	Varies
75 + 10L	80 + 86L	525.575'				G	7'
63 + 80L	64 + 78L	225.25'				G	Varies
66 + 08L	66 + 33L	37.5'	25'			TYPE B	Varies
67 + 67R	68 + 17R	25'	25'			TYPE B & F	Varies
Totals		3,837.5'	675'	100'	100'	4 BCT, 4 TYPE B	
*(19J) 11 + 24 ± L	14 + 11 ± L	262.5'				BCT & C	6'
*(19J) 23 + 05 ± R	27 + 42 ± R	387.5'				BCT & BCT	6'
Totals		4,714.5'	671.9'				

REMOVAL OF EXISTING GUARD RAILS			
BEGIN STATION	END STATION	LINEAR FT. RAIL (W) = WOOD (S) = STEEL	CONC. POST EACH
-1 + 00L	3 + 77L	477(W)	54
3 + 85R (Rt. 68' to 6GR)		36(W)	5
4 + 30R	4 + 42R	-	3
15 + 78L	22 + 67L	709(W)	72
16 + 68R	21 + 25R	459(W)	52
42 + 77R	44 + 17R	140(S)	12
46 + 52L	47 + 82L	130(S)	11
59 + 73L	62 + 69L	305(S)	25
60 + 08 ~ 60 + 69R to			
60 + 50 ~ 62 + 29R		240(S)	20
64 + 34R	64 + 73R	41(S)	4
65 + 38R	66 + 14R	79(S)	7
67 + 90L	68 + 70L	80(S)	7
66 + 08L	64 + 78L	25(S)	5(S)
67 + 67R	68 + 20R	55(S)	9(S)
80 + 12L	80 + 37L	25(S)	5(S)
Totals		2,801.1L	291
64 + 18L	66 + 08L	200(S)	32(S)
*(19J) 11 + 24 ± L	14 + 11 ± L	190(W)	22
*(19J) 23 + 17 ± R	27 + 42 ± R	351(W)	44
Totals		3,542	389

* - If less than 3 feet, post length shall be 8'-0" min.



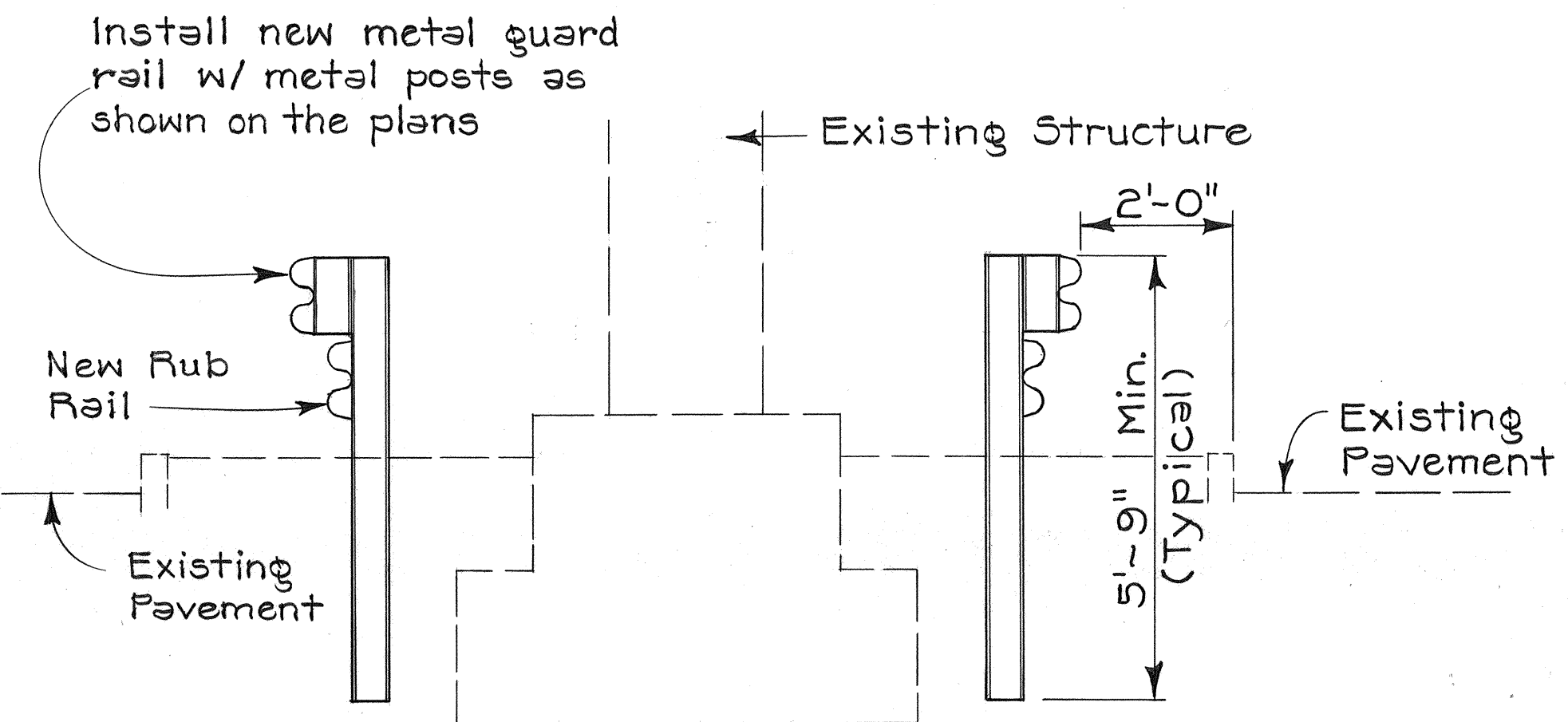
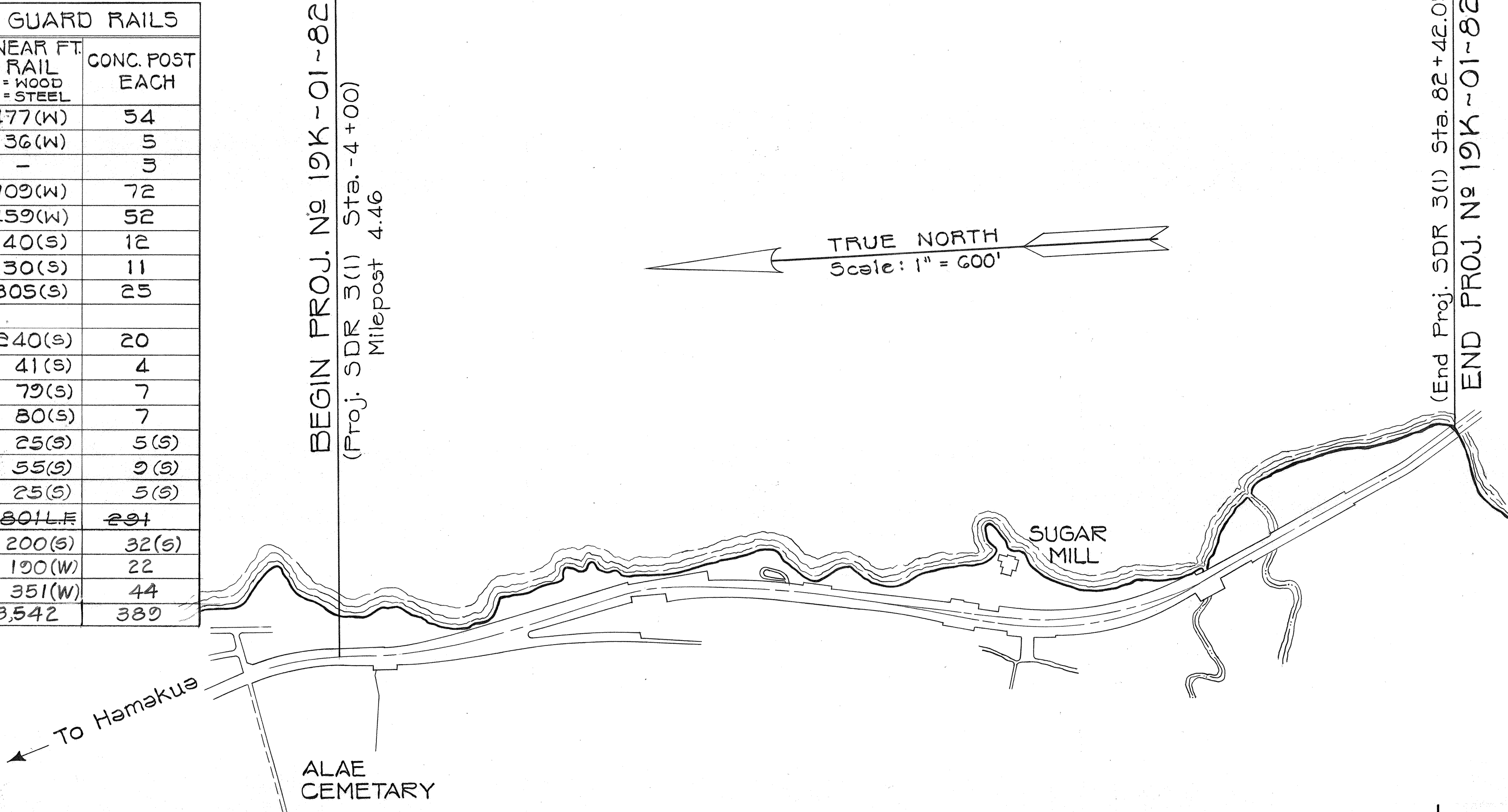
TYPICAL SECTION
Scale : 3/8" = 1'-0"

NOTES:

- Guard rail shall be installed in accordance with Standard Detail Sheet DT 500 except as shown on Typical Sections
- All removed guard rail appurtenances shall be salvaged and stockpiled at Hilo Baseyard by contractor (incidental to new metal guard rail).
- Ground adjacent to new guard rail shall be graded and compacted (work incidental to new metal guard rail).
- The relocation of existing signs affected by new guard rail locations shall be incidental to new metal guard rail.

PROJECT LIMITS (*C.C.O. NO. 2 FOR ADD'L WORK)
1.633 MILES

TRUE NORTH
Scale: 1" = 600'



TYPICAL SECTION @ MEDIAN STRUCTURE
Scale : 1/2" = 1'-0"

* WORK DONE UNDER CONTRACT CHANGE ORDER
(SEE ATTACHED SKETCH SHEET NO. ADD. 65-1)

LAYOUT OF PROJECT

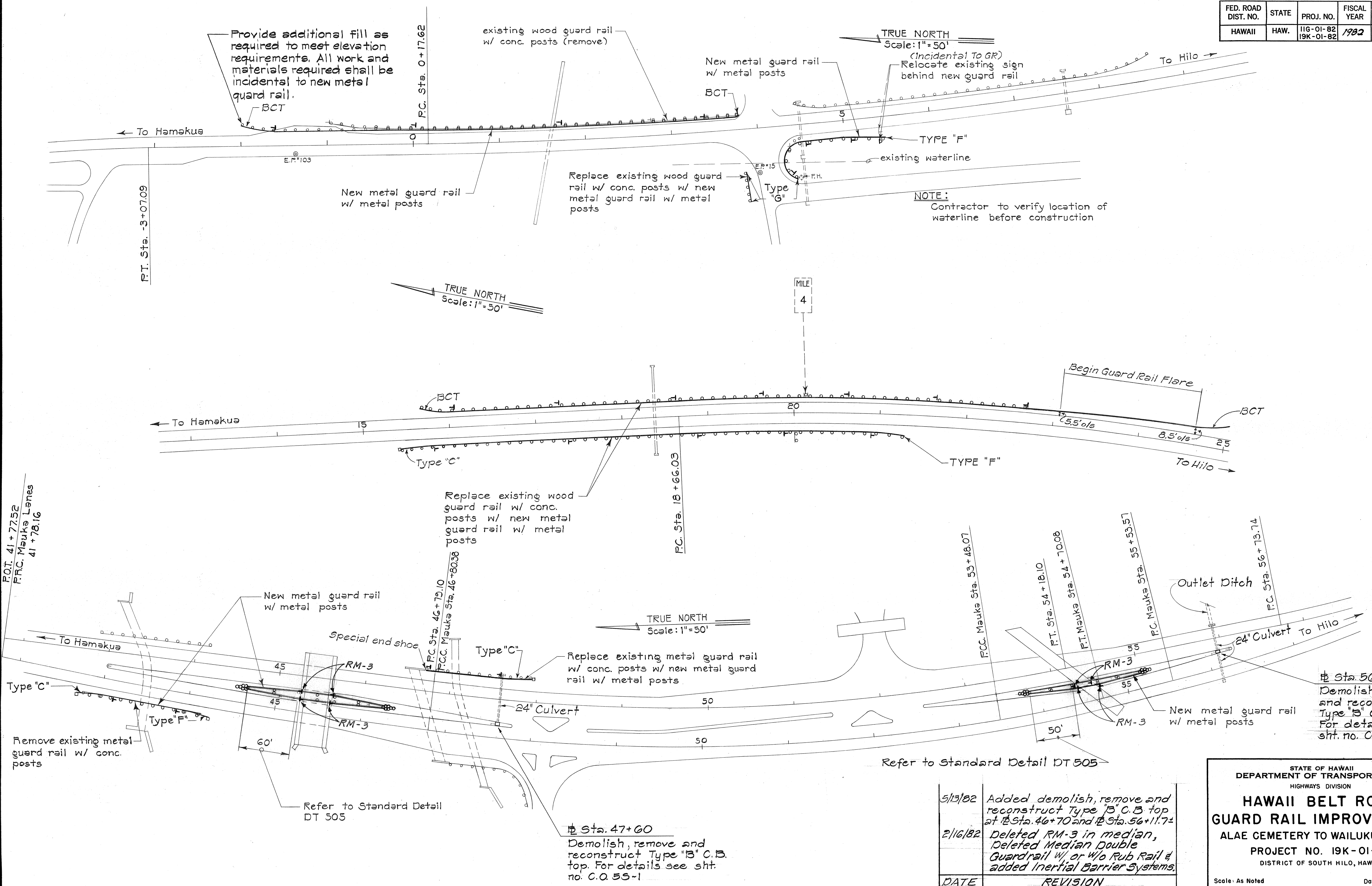
2/16/82	Changed Stationing Limits of Guardrail in median, Deleted Median Double Guardrail "W" or "No Rub Rail, Deleted Reference to DT 502 and added Reference to Inertial Barrier System.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**HAWAII BELT ROAD
GUARD RAIL IMPROVEMENT**
ALAE CEMETARY TO WAILUKU BRIDGE
PROJECT NO. 19K-01-82
DISTRICT OF SOUTH HILO, HAWAII

Scale: As Noted Date: July, 1981
SHEET NO. 1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	116-01-82 19K-01-82	1982	4	15



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
.....	DESIGNED BY	
.....	CHECKED BY	

5/13/82	Added demolish, remove and reconstruct Type "B" C.B. top at Sta. 46+70 and Sta. 56+11.7±
2/16/82	Deleted RM-3 in median, Deleted Median Double Guardrail w/ or w/o Rub Rail & added Inertial Barrier Systems.
DATE	REVISION

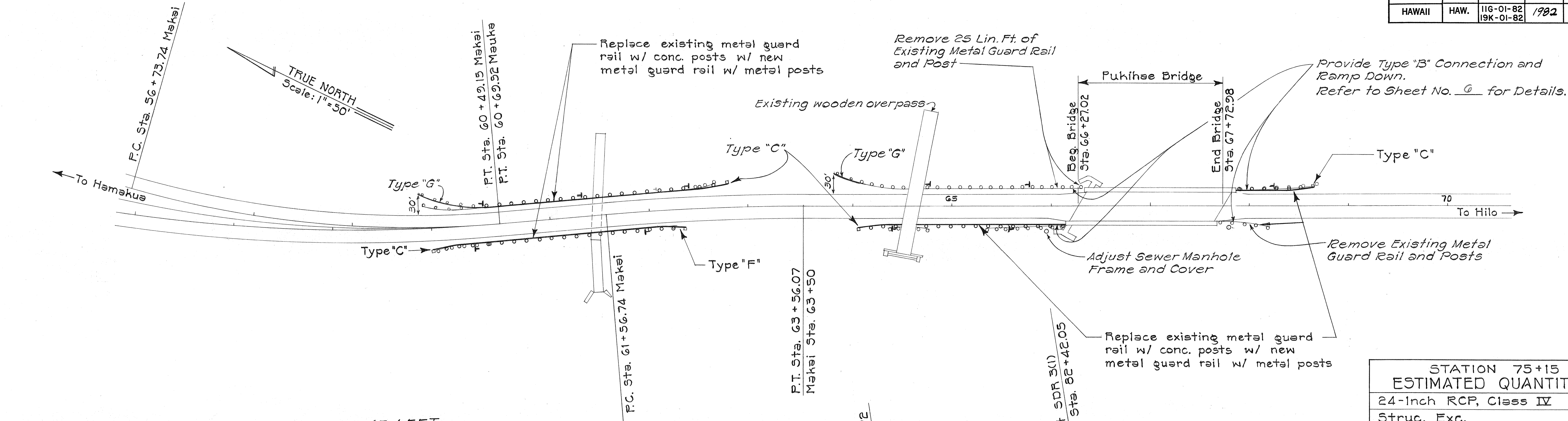
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**HAWAII BELT ROAD
GUARD RAIL IMPROVEMENT**
ALAE CEMETERY TO WAILUKU BRIDGE
PROJECT NO. 19K-01-82
DISTRICT OF SOUTH HILO, HAWAII

Scale: As Noted
Date: July, 1981

SHEET NO. 2 OF 3 SHEETS

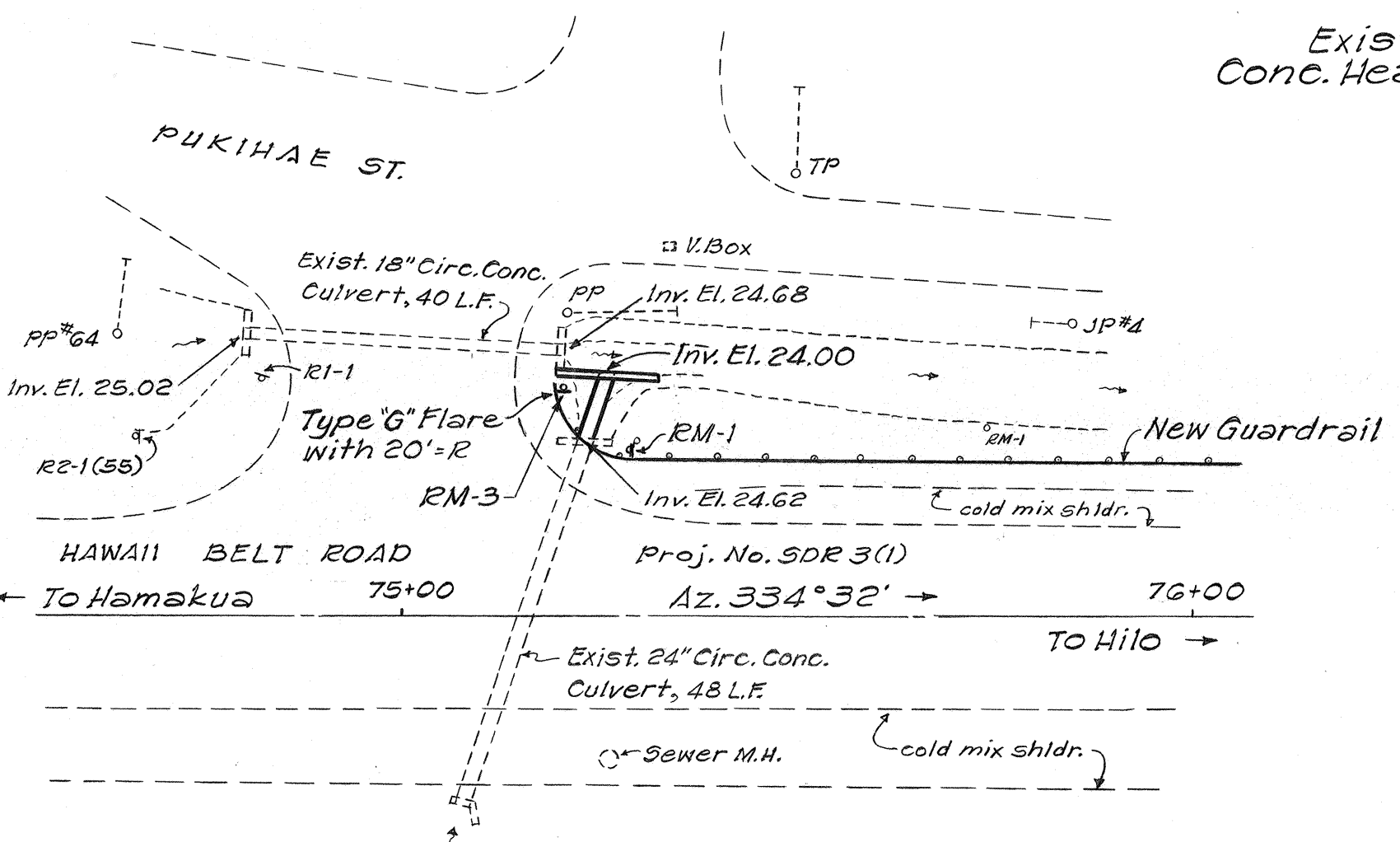
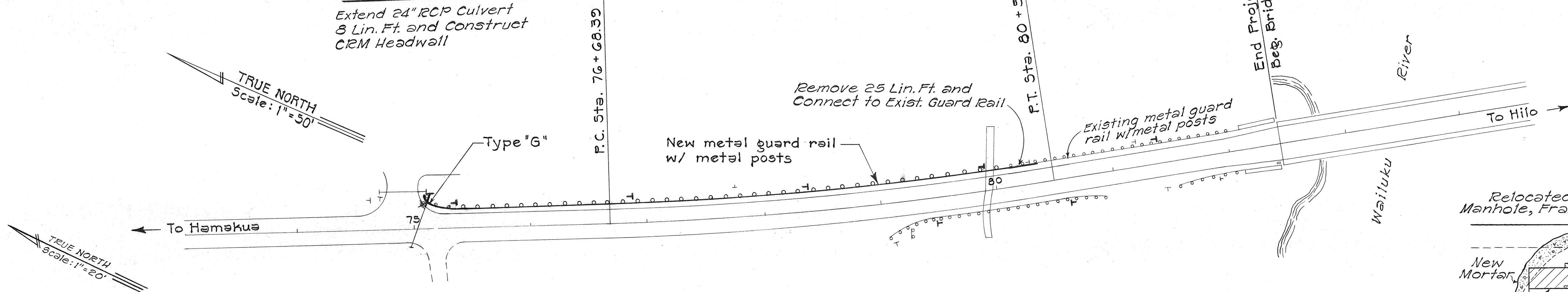
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	116-01-82 19K-01-82	1982	5	15



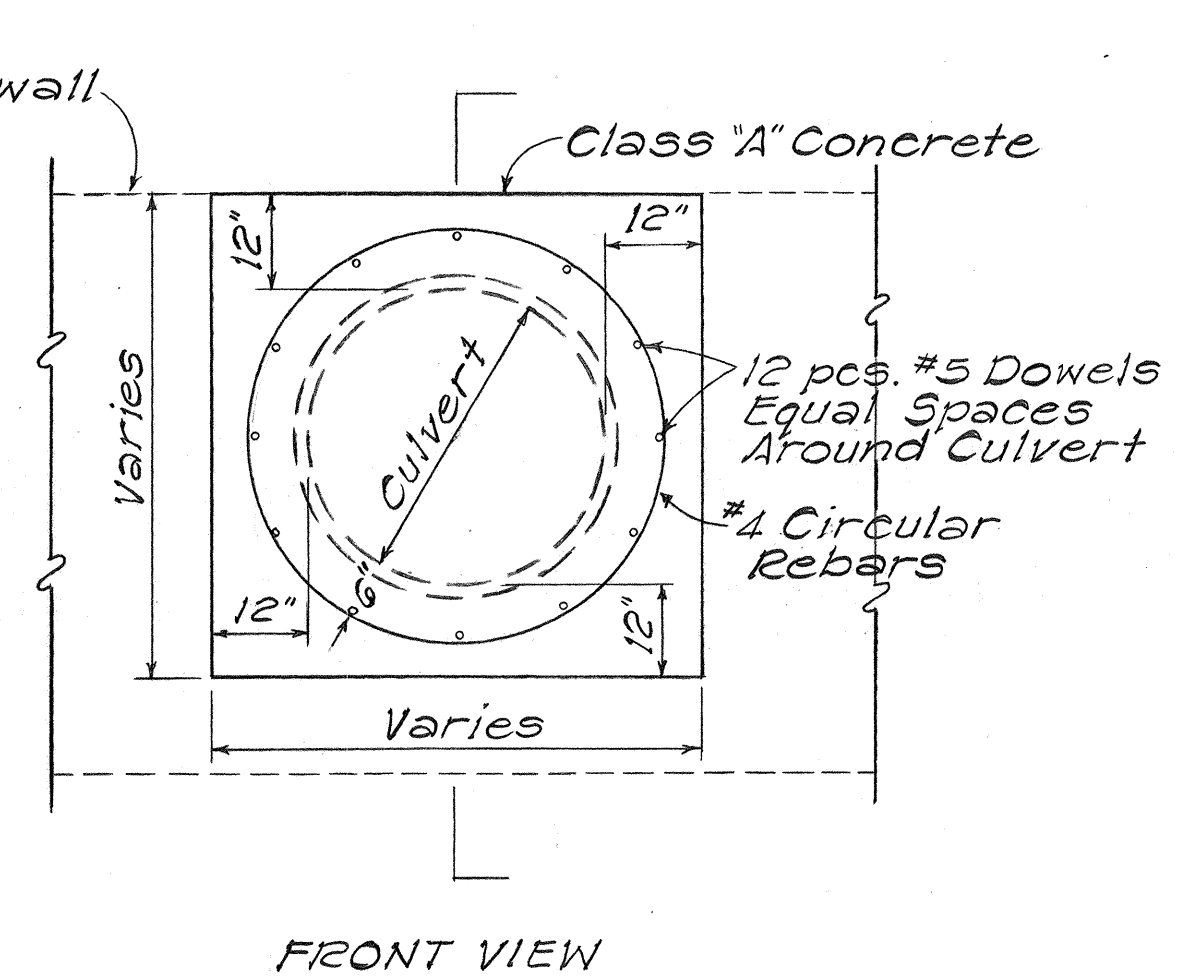
STA. 75+15 LEFT

Extend 24" RCP Culvert
8 Lin. Ft. and Construct
CRM Headwall

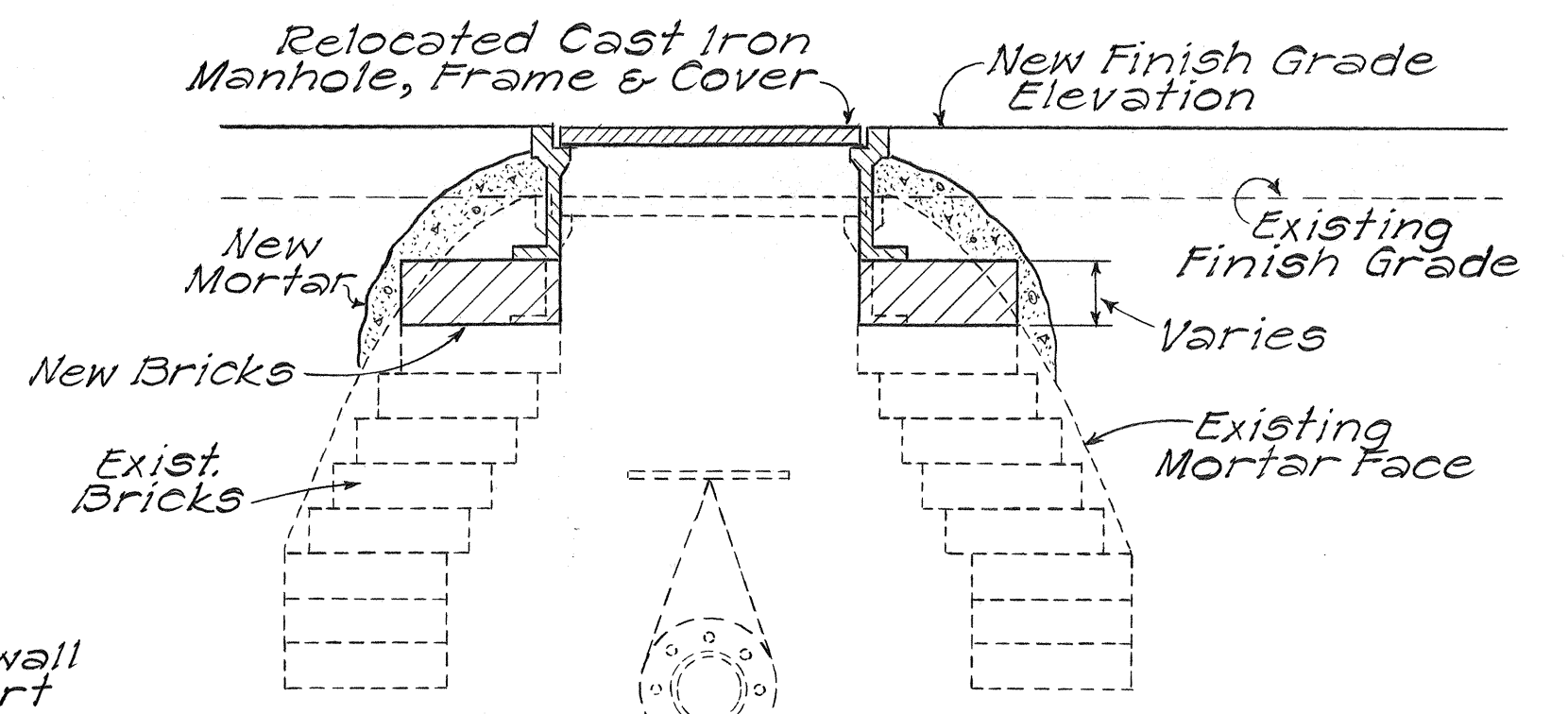
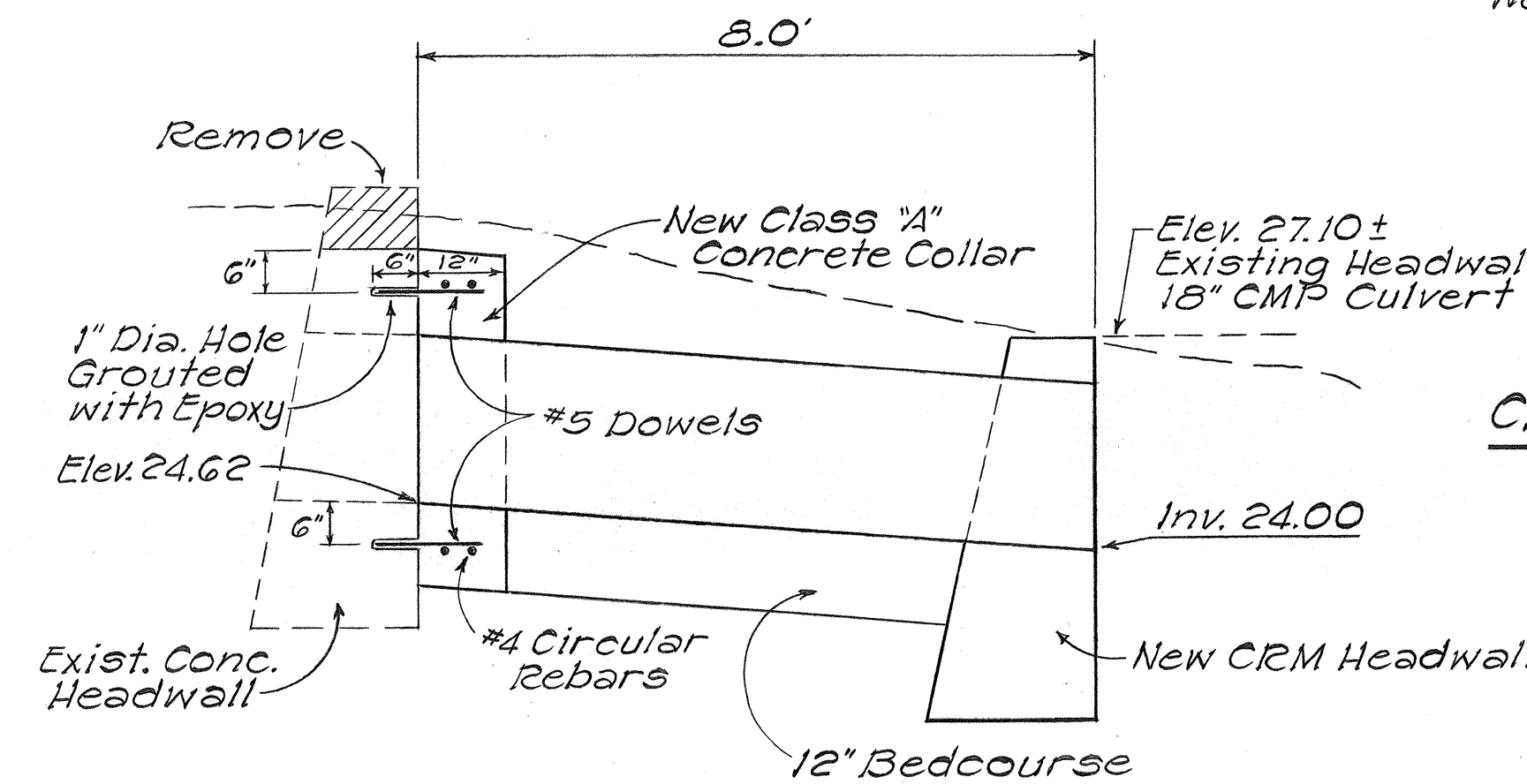
STATION 75+15 ESTIMATED QUANTITIES	
24-Inch RCP, Class IV	8 Lin.Ft.
Struc. Exc.	6 c.y.
Bed Course	3 c.y.
Select Borrow Agg.	4 c.y.
Class A Concrete	0.3 c.y.
Reinf Steel	25 lbs.
CRM Headwall	3.5 c.y.



PLAN CULVERT EXTENSION
Scale: 1" = 20'



CULVERT EXTENSION DETAILS
Scale: 1/2" = 1'-0"



STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HAWAII BELT ROAD

GUARD RAIL IMPROVEMENT

ALAE CEMETERY TO WAILUKU BRIDGE

PROJECT NO. 19K-01-82

DISTRICT OF SOUTH HILO, HAWAII

Scale: As Noted

Date: July, 1981

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____